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Products, News & Information Data Centers Can Trust. Since 1979

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Preparing For & Recovering From Data Center Disasters

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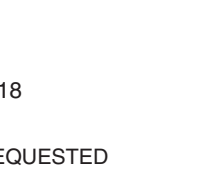
Improving Network & Systems Management



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Help Your Data Center Go Green

Reduce Power Consumption With Cyber Switching's ePower PDUs

by Kris Glaser Brambila

• • •

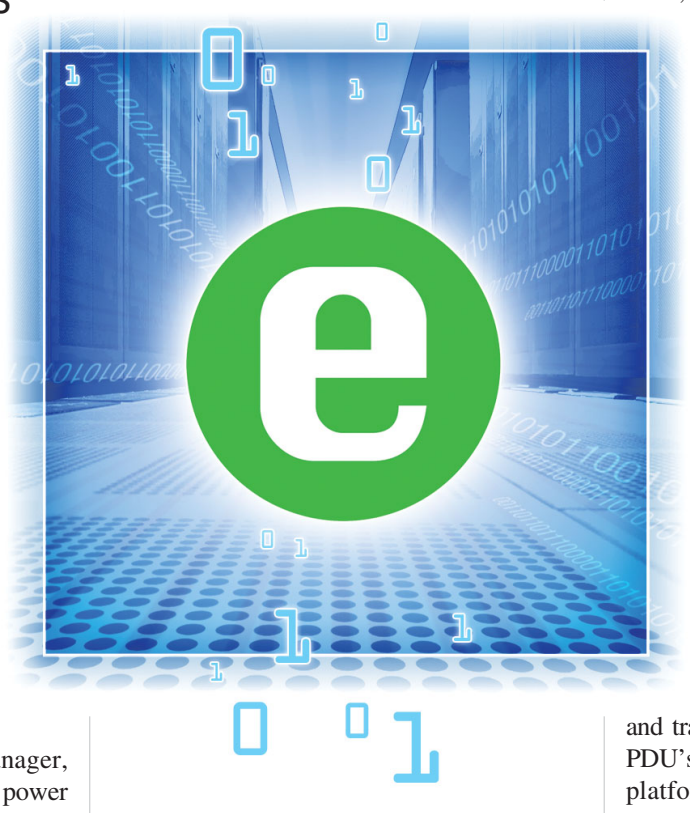
DATA CENTERS are seeking ways to reduce overall energy consumption so they can lower costs and be more green. Enterprises often start simple by turning off lights when they're not needed or adjusting their thermostats. But there are more effective methods to trim energy consumption, and it begins with managing power distribution.

Cyber Switching offers one such option with its ePower PDU—the next generation of power distribution unit. ePower enables remote management options and provides fundamental power information for each of its outlets individually.

Chris Verges, ePower product manager, says each outlet features billing-grade power metering and relay control. "Power usage for each server in a data center can be tracked, helping facilities managers to accurately allocate costs to the proper business units based on actual runtime data and incentivizing IT managers to reduce their equipment's power usage," Verges says. ePower's remote control capabilities let you reboot equipment when a lockup occurs or turn it off when not in use. Each outlet is also protected by Cyber Switching's patented Cyber Breaker technology, which uses a software-controlled circuit breaker to limit overcurrent conditions to a single outlet. The Virtual Circuit Breaker is customizable and utilizes a trip-curve to help you save money and reduce downtime.

Ease Of Use

For any data center solution, ease of use is a must. ePower PDUs address this by integrating a full-color LCD touchscreen where you can view power information about the devices connected to each outlet, including the amount of current being pulled by each individual outlet or a combination of outlets and the voltage or power factor of each outlet. "Locally, the color LCD touchscreen can be used to configure the unit through its on-screen setup wizard



and to manage the unit's power as an aggregate on each input cord or bank or as each outlet," Verges says. ePower PDUs support several remote management options, too, such as HTTP/S, Web Services, SSH, Telnet, Syslog, SMTP, and most recently, Cisco EnergyWise.

The Cisco EnergyWise platform simplifies the management of equipment such as routers, switches, and servers. It can be used to implement power management policies for businesses and to assemble power metrics into intuitive, user-friendly dashboards.

Cisco EnergyWise is deployed on network switches and routers known as EnergyWise peers, with end devices known as EnergyWise endpoints. The open framework allows for a variety of applications for display and management. As a new feature, Cyber Switching's ePower PDUs act as an endpoint for EnergyWise domains. "When the feature is enabled on ePower," Verges says, "the PDU itself appears as a unique endpoint entity in the domain, with each outlet being enumerated as its own entity. Now, corporate energy policy can be implemented using the power of the Cisco network and the power management functionality of Cyber Switching's ePower PDU."

ePower PDUs also incorporate features that facilitate future growth. For example, ePower PDUs have two USB ports that let data center managers connect a myriad of peripherals, including temperature/humidity probes, Web cams, and UPSes. "The flexibility with USB allows ePower to be a platform that can grow with your needs, even years after the initial deployment," Verges says. In all, ePower PDUs can simultaneously support up to 127 peripherals.

Go Green

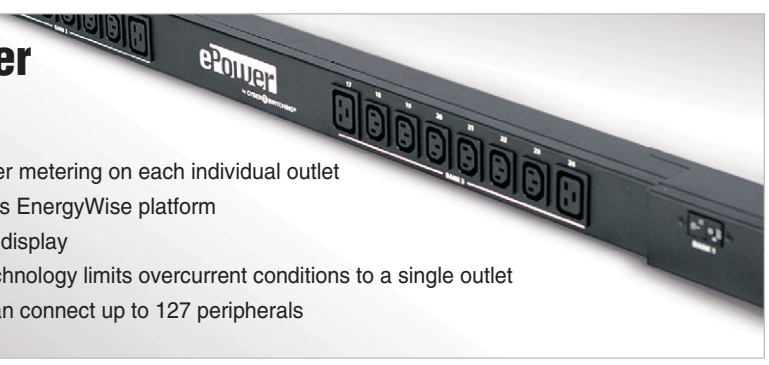
According to Verges, there are three challenges that impede a company's ability to overcome their environmental objectives. These include identifying the areas that need improvement, setting realistic goals and creating policies, and successfully implementing those policies.

"ePower is uniquely suited to help businesses of all sizes achieve all of these," Verges says. By examining the billing-grade metering that's available on each of the PDU's outlets, users can collect power usage baselines, develop ways to reduce power usage, and track that usage over time, he says. The PDU's integration with the data network and platforms such as Cisco EnergyWise give users an intelligent way to manage their power usage. In addition, businesses can achieve their green goals with the help of ePower's simple user interface.

"Cyber Switching's core philosophy is that knowledge is power, and power should be controlled intelligently," Verges says. "ePower provides highly accurate metering data that businesses use to make properly educated decisions on balancing electrical usage with the company's critical needs along with the control mechanisms needed to carry out that green energy policy. In short, ePower enables organizations to go green," he says. P

Contact: (888) 311-6277 | www.cyberswitching.com

Top ePower Features



- Billing-grade power metering on each individual outlet
- Support for Cisco's EnergyWise platform
- LCD touchscreen display
- Cyber Breaker technology limits overcurrent conditions to a single outlet
- Two USB ports can connect up to 127 peripherals

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- ❑ 10 to 99
- ❑ 100 to 199
- ❑ 200 to 499
- ❑ 500 to 999
- ❑ 1,000+

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- ❑ Bi-weekly
- ❑ Monthly
- ❑ Quarterly
- ❑ Annually
- ❑ No Involvement

3. What is your annual computer hardware/software purchasing budget?
- ❑ $0 to $9,999
- ❑ $10,000 to $24,999
- ❑ $25,000 to $49,999
- ❑ $50,000 to $99,999
- ❑ $100,000 to $249,999
- ❑ $250,000 to $499,999
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News

Apple Is Tops In Customer Satisfaction

J.D. Power and Associates has released a study reporting Apple as the highest-ranking smartphone manufacturer when it comes to customer satisfaction. This is the fourth consecutive year Apple has come out on top. This year, Apple scored 800 out of 1,000 points, which is compiled from the information given by more than 6,800 smartphone owners. Motorola scored 791 points to grab the second-place slot, while HTC landed in third place with 781 points. Ease of operation, operating system, physical design, features, and battery function all contributed to the scores of each smartphone.

FCC Releases White Spaces Spectrum

The Federal Communications Commission voted unanimously to release unused "white space" spectrum in the television band to unlicensed wireless broadband devices. The decision will help provide "super Wi-Fi" access across the United States. The so-called "super Wi-Fi" will have a longer range, quicker speeds, and more stable service than Wi-Fi currently available. The fight over white space spectrum has lasted about eight years with many opposing the release of white space due to potential interference with television channels and wireless microphones. To accommodate those opponents, the FCC has reserved two television channels for wireless microphones.

Zamarian To Head Up Dell Networking Unit

Dario Zamarian, vice president of systems and network management for Cisco, has been hired by Dell to serve as the vice president and general manager of its networking division. Dell has traditionally dealt in PCs and servers, but the company is actively becoming more involved in storage and networking in a bid to more closely compete with rival companies such as HP and Cisco. Earlier this year, Dell attempted to acquire 3Par, a high-end storage vendor, but was outbid by HP. Zamarian's departure from Cisco marks the second time in a week that one of that company's veterans has left for an upper-level executive position elsewhere; Cisco's CTO for unified communications, Joseph Burton, recently defected to Polycom to serve as chief strategy and technology officer.

Ericsson To Buy Nortel's MSS Business

Not long after purchasing CDMA and LTE properties from the remaining assets of Nortel, Ericsson has agreed to acquire Nortel's MSS (multi-service switch) portfolio for a cash outlay of $65 million. The acquisition will bolster Ericsson's wireless and carrier voice divisions, the company says. MSS will provide continuation of equipment supply for Ericsson's CDMA business, as well as fodder for research and development. The MSS business offers "sale and support of data networks and switching platforms for core networks," according to an announcement from Ericsson.

IBM To Acquire Blade Network Technologies

Another industry giant is moving into the blade server business: IBM announced that it has agreed to purchase Blade Network Technologies of Santa Clara, Calif. The financial terms of the transaction have not been disclosed, but the deal is slated to close in the fourth quarter of this calendar year. Blade provides both hardware for the burgeoning data center market and software to facilitate virtualization in the concomitant cloud computing sector. IBM also plans to more closely integrate Blade's switches into its systems for optimized data transfer to the core networking layer.

Google Drops Slightly In Search Share

According to the latest figures from comScore, Google's share of the search market dropped by 0.4% from July to August; however, the search giant still recorded 65.4% of all searches. The newly combined forces of Microsoft and Yahoo! totaled 28.5% of the searches, with the larger share going to Yahoo!. In total, Americans performed more than 16.9 billion search queries in August. The Ask Network and AOL Network followed behind the big three with 3.8% and 2.3%, respectively. comScore notes that the results include peripheral search hits, such as Google News for Google, to provide an accurate representation of the searches.

Report: Mobile Workforce Poses Higher Security Threat

The MessageLabs Intelligence Report from Symantec found that Web site blocks, based on corporate policies, occurred 35% more often when workers were on the road than when they are in the office or at a home office. Symantec suggests that this is because workers use the freedom of the road to visit Web sites that they would not normally visit while at their desks. For example, mobile workers were five times more likely to trigger blocks that related to downloads. Road warriors were also more likely to shop online and visit personal or dating Web sites. According to Symantec, the results support the argument that having written security policies won't alter user behavior.

Standard Created For Testing SSDs

New standards have been created for testing the endurance and reliability of SSDs (solid-state drives). Created by the JEDEC Solid State Technology Association, the rules include two standards for SSDs: JESD218 SSD Requirements and Endurance Test Method, which creates a rating that represents how many terabytes of data are written by a host to the SSD, and JESD219 SSD Drive Endurance Workloads, which establish standard workloads for comparable results for enterprise applications. The standards will be useful for SSD vendors, many of which currently use MTBF (mean time between failure) as an endurance and reliability metric, and for all users to more easily select the best SSD for their applications.

WATCH THE STOCKS

This information provides a quick glimpse of current and historical stock prices and trends for 13 major companies in the technology market.

Company	Symbol	Year Ago	Sept. 16 $	Sept. 30 $	% change from previous issue
AMD	AMD	$5.39	$6.15	$7.11	▲ 15.61%
CA Technologies	CA	$21.21	$20.23	$21.12	▲ 4.4%
Cisco Systems	CSCO	$23.09	$21.93	$21.90	▼ 0.14%
Dell	DELL	$15.14	$12.42	$12.97	▲ 4.43%
Google	GOOG	$487.20	$481.06	$525.79	▲ 9.3%
HP	HPQ	$45.96	$40.35	$42.07	▲ 4.26%
IBM	IBM	$117.90	$129.67	$134.14	▲ 3.45%
Intel	INTC	$18.90	$18.97	$19.20	▲ 1.21%
McAfee	MFE	$42.97	$47.26	$47.26	uchgd.
Microsoft	MSFT	$24.88	$25.33	$24.49	▼ 3.32%
Oracle	ORCL	$20.36	$25.36	$26.85	▲ 5.88%
Red Hat Software	RHT	$26.97	$37.44	$41	▲ 9.51%
Symantec	SYMC	$15.88	$14.94	$15.13	▲ 1.27%

NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions.

News

VoIP Hacker Sentenced To 120 Months In Prison

Edwin Andres Pena was sentenced to 120 months in prison late last month for transmitting more than 10 million minutes in unauthorized VoIP calls over his victims' networks. According to a release from the U.S. Justice Department, Pena is "the first individual ever charged with hacking into the networks of VoIP providers and reselling hacked VoIP services for a profit." Following his 2006 arrest, Pena, a citizen of Venezuela, fled the states before being caught in Mexico in 2009. He pled guilty to a count of conspiracy to commit computer hacking and wire fraud and one count of wire fraud in February 2010. In addition to the prison stint, Pena was sentenced to pay restitution in the amount of about $1.01 million. Robert Moore of Spokane, Wash., was previously sentenced to 24 months in prison for his role in the conspiracy. Prosecutors claim that Pena sold discounted VoIP service plans to customers that he stole from other VoIP providers.

Analyst: iPad Sales To Overtake The Mac

In a late-September research note to clients, analyst Gene Munster of Piper Jaffray upped a previous projection of Apple iPad sales for 2011 from 14.5 million to 21 million. Further, Munster reportedly believes the iPad will outsell the Mac by 2011, saying that the iPad is "the Mac for the masses." Munster based the projection on increasing iPad supply; expanded distribution channels for the tablet; more availability in international markets; and increased use in the enterprise sector, citing Apple's claims that more than 50% of Fortune 100 companies are either deploying or testing the iPad. As for competition, Munster sees Android-based devices as posing the stiffest competition to Apple and the iPad.

DLL Hijacking Exploits Pose Most Risk To IE Users

Researchers at Acros Security are warning that users of Internet Explorer are more vulnerable to DLL attacks than users of Chrome or Firefox. Called "DLL load hijacking," this type of exploit relies on the fact that most applications invoke DLLs by using a simple file name rather than a full path name; this means that a hacker could trick an application into loading a similarly named malicious file because that file need not reside in a specific folder or subfolder. Windows XP users are particularly vulnerable because browsers running on Windows 7 and Vista systems by default run in Protected Mode and are thus insulated from many threats.

Study Highlights Great Potential In East Coast Wind Energy

A recent study by conservation group Oceana has found that offshore wind turbines could generate almost half of the electricity currently being used by East Coast residents. The study estimates that the 13 coastal states could generate 127GW (gigawatts) of power, with North Carolina, South Carolina, New Jersey, and Virginia offering the most potential for easily generating wind energy. The 127GW of energy generated by East Coast turbines would represent far more wind power than currently being generated by the entire country, given that the country's current crop of wind turbines (all land-based when the study was undertaken) are capable of generating only some 35,000 megawatts of power.

Report Shows Application Security Is Lacking

According to Veracode's latest report, 57% of all applications do not meet the highest security quality standards. The application security company analyzed more than 2,900 applications in its "State of Software Security Report: Volume 2" and found that 80% of Web apps could not pass a PCI audit. Veracode used its cloud-based platform to test the strength of Internally Developed, Open Source, Outsourced, and Commercial applications. Third-party code is primarily to blame for insecurities; it made up 30% of all applications submitted for the report review and failed to meet security standards 81% of the time. Security flaws can be repaired relatively quickly, however, with most companies taking 16 days on average to mitigate security issues.

Microsoft Recommends Waiting On IE9

The beta version of Internet Explorer 9 is now available, but Microsoft is asking that users wait for the final version to be released before deploying it across the enterprise. The software giant also recommends that companies should migrate to the Windows 7 operating system and Internet Explorer 8 soon, largely because Win7's first service pack must be installed before IE9 can be deployed. The public beta of Win7 SP1 expired in June; however, Microsoft has yet to commit to a launch date for both IE9 and Win7 SP1. Some of IE9's features include full HTML 5 support, a JavaScript upgrade, site pinning to the Windows 7 taskbar, and a cleaner user interface.

Survey Gauges Feelings Toward Virtualization & Cloud Computing

Open-source systems management provider Zenoss has released the results of a survey on virtualization and cloud computing, in which the company surveyed more than 200 IT professionals from its open-source management community. The survey found that 40.7% of respondents prefer to employ servers virtually; in fact, 29.3% use virtualization whenever possible. Furthermore, VMware is the most common virtualization technology, used by 79.3% of respondents. Reasons for using virtualization technology included cost savings (64.7%), flexibility (43.4%), and hardware savings (33.3%). Respondents were not without concerns, though; security, management, and monitoring were all issues cited regarding cloud computing.

Red Hat Posts Q2 Revenue Increase

Open-source solutions provider Red Hat announced its second-quarter financial results. The company's revenue for the quarter was $219.8 million, a 20% increase year-over-year and its best growth rate in two years. Subscription revenue was up 19% year-over-year to $186.2 million. GAAP operating income was $34.1 million (a 24% increase), and non-GAAP operating income was $54.3 million (a 25% increase). Red Hat's net income for the quarter was $23.7 million, and its operating cash flow was $64.3 million. Altogether, with cash, cash equivalents, and investments, the company was worth $1.05 billion at quarter's end.

Fraud Detection Not Keeping Pace With Mobile E-commerce

By the end of 2013, 12.5% of e-commerce transactions will be done via mobile devices, according to Gartner, and location or profile information from mobile phones will be used to validate 90% of mobile transactions. However, existing fraud detection tools, meant to work in fixed-line computing environments, don't work well or at all in the mobile world, says Gartner Research Vice President William Clark. He says there are a number of options in the works to help enterprises detect fraud in mobile transactions, but they are all still in the early stages of development and won't be "technically mature systems" until at least 2012. Once these fraud detection tools evolve, businesses, financial institutions, and end users will have increased confidence in the process, opening up new possibilities, says Avivah Litan, Gartner vice president and distinguished analyst.

NIST Research Could Lead To Mobile Devices That Are More Secure

A new way to generate the high-frequency waves used in cell phones could result in wireless technology that is more secure and resistant to interference. In making the finding, NIST (National Institutes of Standards and Technology) researchers found an oscillator that would harness the spin of electrons to generate microwaves used by mobile devices. The new-found oscillator would use less energy than ones currently in use, and because the frequencies of the new devices can change rapidly, the signals are harder to intercept or jam, according to NIST.

Study: Bans On Texting While Driving Are Ineffective

The HLDI (Highway Loss Data Institute), an affiliate of the Insurance Institute for Highway Safety, has released a study showing that laws against texting while driving may actually have the opposite effect, resulting in increased crashes.

The researchers studied rates of collision claims made in the months preceding and following the institution of texting bans in California, Louisiana, Minnesota, and Washington and then compared the findings to data from nearby states without bans. HLDI found that crashes increased in three of the four states with bans and speculated that drivers were even more distracted by efforts to hide their texting from view to avoid getting in trouble. The institute maintains that the ban only addresses one form of distracted driving and appears to have no impact on reducing the number of collisions; for their part, however, federal highway safety officials dismiss the claims as "completely misleading" and view the bans as integral to raising public awareness about unsafe driving practices.

Google Tops List Of Best Places To Work

Consulting firm Universum recently released its survey of 130,000 business and engineering job hunters and their opinions of the companies for which they'd most like to work. In the overall business rankings, Google claimed the top spot for the second year in a row, followed by KPMG, Ernst & Young, PricewaterhouseCoopers, and Deloitte. Microsoft ranked seventh and Apple ranked 18th. Among engineering firms, Google again ranked first, but Microsoft claimed the second spot, followed by IBM, Sony, BMW, and Intel.

Federal Data Center Consolidation Plans Proposed

The government wants to implement a plan that would reduce and consolidate many of the federal data centers that are currently operational in the United States. However, because there isn't a large budget for such a move, it could take up to 10 years to finish. The hope is to begin using more cloud-based and virtual infrastructures to help create a centralized network of data centers. The vast growth of federal data centers over the past decade prompted the consolidation plan, but it is yet to be seen if there is one clear solution to the problem.

Upcoming IT Events

Are you looking to learn more about data center or IT topics? Network with some of your peers? Consider joining a group of data center professionals. If you have an event you'd like listed, please send an email to feedback@processor.com.

- OCTOBER -

AITP Garden State
Oct. 12
Jim Johnston's Steakhouse
58 Eisenhower Parkway Mountain Plaza
Roseland, N.J.
tech.groups.yahoo.com/group/aitpgardenstatechapter

• • • • •

AITP Richmond
Oct. 12
2015 Staples Mill Road
Richmond, Va.
www.aitprich.org

• • • • •

PASS Wisconsin SQL Server User's Group
Oct. 12, 4:30
Microsoft Office
2176 Woodcrest Drive
Green Bay, Wis.
wisconsin.sqlpass.org

• • • • •

Greater Houston Technology Report & Business Expo
Oct. 13, 10 a.m. to 2 p.m.
Norris Conference Center
803 Town and Country St.
Houston, Texas
www.nstaexpo2010.eventbrite.com

• • • • •

Greater Wheeling AITP
Oct. 13
Wheeling, W.Va.
www.aitp-wheeling.org

• • • • •

ISSA Central Pennsylvania
Oct. 13
Harrisburg University of Science and Technology
326 Market St.
Harrisburg, Pa.
centralpenn.issa.org

• • • • •

ISSA San Diego
Oct. 13
San Diego, Calif.
www.sdissa.org

• • • • •

Southern New England SQL Server User's Group
Oct. 13
www.snessug.com

• • • • •

AITP Washington D.C.
Oct. 14, 6:30 p.m.
Alfio's Restaurant
4515 Willard Ave.
Chevy Chase, Md.
aitpwashdc.ning.com

• • • • •

Information Security Summit
Oct. 14-15
Corporate College East
Warrensville Heights, Ohio
www.informationsecuritysummit.org

• • • • •

ISSA Northeast Ohio
Oct. 14
Cuyahoga County Library-Parma South
7335 Ridge Road
Parma, Ohio
www.neoissa.org

• • • • •

SQL Server Society of Las Vegas
Oct. 14
The Learning Center of Las Vegas
777 North Rainbow
Las Vegas, Nev.
sssolv.com

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ISSA Upstate South Carolina
Oct. 15
NuVox
1001 Keys Drive #100
Greensville, S.C.
www.upstate-issa.org

• • • • •

AITP Pittsburgh
Oct. 18
Slovak Catholic Sokol
205 Madison St. Road
Venetia, Pa.
www.aitp-pgh.org
AITP's Association Outstanding Chapter Award Winner

For more Upcoming IT Events, see page 8.

PRODUCT RELEASES

The *Processor* Product Releases section includes brief overviews of data center products.

All products listed have been released recently, so use this section to get up-to-date with what's new on the market and to find products you need.

Manufacturers:
Do you have a new product that data center/IT managers would be interested in learning about?
Send your press release or product information to press@processor.com.

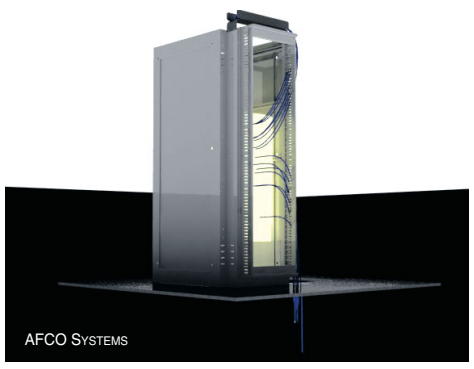
Physical Infrastructure

ADC FPX Fiber Panel Series & OmniReach RealFlex Universal Drop Cable

ADC announced its latest fiber solutions, the FPX Fiber Panel Series and OmniReach RealFlex Universal Drop Cable. The FPX fiber panels feature MPO cassettes and termination/splicing or termination-only configurations. The ADC OmniReach RealFlex Universal Drop Cable supports indoor and outdoor drop cable application requirements.

AFCO Systems HDS 10 High Density Switch Enclosure

AFCO Systems introduced the HDS 10 High Density Switch Enclosure designed for the Cisco Nexus 7018 Network Switch. The enclosure utilizes AFCO Systems' advanced airflow management technology to provide the necessary cooling with a 25% smaller footprint in the



data center compared to other cabinets. The enclosure is designed to accept cabling from overhead and/or under floor feeds. It uses a series of vertical and horizontal cable managers, in a dedicated cable management chamber, that help route and secure each connection efficiently while minimizing the cabling's impact on airflow. This provides data center managers with an extra level of confidence in maintaining switch performance and reliability. More information about the AFCO Systems HDS 10 is available at http://afcosystems.com/enclosures_hds10.aspx or on page 13.

Chatsworth Products Velocity Standard Pack

Chatsworth Products released Velocity Standard Pack, a physical security solution that offers an easy-to-use method for managing equipment and cabling at the cross connect. The package includes Velocity Cable Management and Standard Rack and installation hardware. The package physically protects and manages cable while providing a pathway for premise cable and patch cords. Four variations are available.

Eaton Intelligent Power Software Suite

Eaton announced its Intelligent Power Software Suite, which includes many of Eaton's power management, monitoring, and protection solutions, including the Intelligent Power Manager and Intelligent Power Protector. The suite is available free for up to 10 IP addresses, and it lets users control a range of environmental and power devices from a single Web-based interface.

ManageEngine FacilitiesDesk

ManageEngine announced its FacilitiesDesk facilities management software. It is highly customizable and features monitoring of physical infrastructure maintenance through the use of a calendar function as well as recurring housekeeping and preventive maintenance activities. FacilitiesDesk can be purchased as one of two versions: Computerized Maintenance Management Software or Computer Aided Facilities Management.

Optima EPS IT Cabinet

Optima EPS announced an IT cabinet with several features designed for broadcast and server application environments. The cabinet's modular, extrusion-based design means it can easily be customized to meet specific requirements, saving customers time and money. The cabinet features several cable managers, brackets, D-rings, Velcro straps, and bundle retainers that make it an ideal fit for cable-intensive applications. Other helpful options include cable spacers, a fiber-optic cable manager, and a brush cable manager that allows cables through but contains airflow for thermal management. Additionally, the front and rear doors feature a convex design that accommodates extra space for cabling. For more on this product, see page 13.

Pelican Products Pelican-Hardigg Composite Rackmount Cases

Pelican Products announced the launch of a full range of tough, rigid composite rackmount cases made with GMT (Glass Mat Thermoplastic) composite shells. The company says that the cases "provide greater rigidity than non-reinforced products and are chemically resistant to most fuels, solvents, contaminants, and decontaminants."

Super Micro Computer SuperRack

Super Micro Computer, Inc., launched SuperRack, which provides especially clean cable routing for maximum airflow and easy access to rear-side system components. SuperRack also gives users more than 100 optional modular components to select from. Other features include front, rear, and side expansion units; a static load rating of 5,000 pounds; and fully welded construction via EIA-standard 310D hardware.

Networking & VPN

Anfibia Reactor 2.1

Anfibia released its server monitoring solution, Anifibia Reactor 2.1, which supervises connections, servers, databases, hard drives, CPU, and memory via Web browser, iPhone, or iPad. The solution can also monitor query databases, log errors, display graphs, and send alerts via email, SMS, or to Twitter. Additionally, Anifibia Reactor supports administration tools, RSS feeds, and various themes.

Blade RackSwitch G8052

This new top-of-rack edge switch from Blade Network Technologies targets the enterprise data center. The RackSwitch G8052 ($6,600) has Gigabit ports and 10Gbps uplinks for a total of 40Gbps upstream speed support. It features VMready 3.0 with Virtual Vision, Explicit Congestion Notification, and Weighed Random Early Detection.

Brocade MLXe Core Router

Brocade announced the Brocade MLXe Core Router, which is designed to establish industry benchmarks for performance, scalability, and investment protection for service provider and data center networks. The MLXe is compatible with Brocade MLX and Brocade NetIron XMR blades, ensuring the continued interoperability of the network.

Brocade Network Advisor

Brocade announced the Brocade Network Advisor, a unified network management platform for SAN and IP networks. Features include an easy-to-use management solution, nonstop networking, optimized applications, and investment protection. Network Advisor works across Brocade Fibre Channel SANs, IP networks, FCoE (Fibre Channel over Ethernet) networks, wireless networks, and MPLS (Multiprotocol Label Switching) networks.

Exele Information Systems TopView 6.8.7

Exele Information Systems released TopView 6.8.7, which includes alarm analytics capabilities that provide local and remote alarm history analysis via interactive tables and charts, identification of nuisance or poorly configured alarms, alarm flooding, and time-based alarm activity trends. The company says that TopView gives users more control and additional information to help them improve their systems' performance and configuration.

F5 Networks Application Ready Solution For Oracle Database Technologies

F5 Networks announced Application Ready Solution for Oracle Database technologies that are specifically designed for the database. The solution features integration of F5's BIG-IP Local Traffic Manager and WAN Optimization Module with Oracle Database as well as enhanced visibility, time savings, and resource savings.

Firetide 802.11n MIMO Access Points & Wireless LAN Controller

Firetide released its 802.11n MIMO HotPoint 5100 indoor ($695) and HotPoint 5200 ($1,295) outdoor access points along with its FWC 2050 WLAN Controller. The dual-radio access points feature 802.11n with 300 Mbps real-world throughput. The $4,995 FWC 2050 automatically connects and balances loads for wireless LAN networks.

Fluke EtherScope Series II Network Assistant Version 5

Fluke Networks announced the latest version of its EtherScope Series II Network Assistant, which makes network testing quicker and easier thanks to the offering's new Health Audit test. EtherScope version 5 also features a streamlined user interface and the critical network performance test, ProVision.

Fluke Networks Time Machine

Fluke Networks unveiled its Network Time Machine hardware platform, which is a high-performance network forensics recorder for back-in-time analysis. The offering lets data center administrators store and analyze data and extract information to determine the root cause of a given issue and determine ways to prevent it from happening again.

Intermec INcontrol

Intermec announced INcontrol, which is a new managed services portfolio designed to provide better visibility and proactive tracking of customers' mobile devices. Through INview, INsync, and INcommand, INcontrol offers a comprehensive product family that provides a variety of service levels to meet enterprise needs.

Minicom Advanced Systems AccessIT

Minicom Advanced Systems announced an enterprise version of its AccessIT access management platform. AccessIT is designed to offer a quick and easy way for IT staff to run and manage multiple remote access protocols via a Web-based interface. AccessIT can handle more than 10 users and more than 250 servers and network devices.

Nasuni Filer 2.0

Nasuni released Nasuni Filer 2.0, which is designed to work better in Windows environments. It has full support for Hyper-V server virtualization, Windows Azure, Distributed File System namespaces, and previous versions of Windows. Additionally, it now supports private clouds and lets users provide their own cloud credentials.

nMetrics Application Monitor 6001

nMetrics' series of application monitors, including the Application Monitor 6001, helps businesses better manage and control their network performance. The AM6001 is a hardware-based solution that can track network flow and log it into a database so users can evaluate performance and create customized reports. The AM6001 can connect with up to 50

subnets, making it ideal for medium-sized businesses. It includes eight 10/100/1000 Ethernet ports; 4GB of RAM; and a 250GB storage capacity. The application monitor is also compatible with any existing infrastructure and can be used as a standalone unit or as part of a distributed application monitor installation. For more on this product, see page 21.

Parallels Linux Shared Hosting NG Service Delivery Solution

Parallels is introducing its Linux Shared Hosting Next Generation Service Delivery solution that utilizes clustering, load balancing, and proprietary site isolation to improve Web hosting. Deployed as a module along with Parallels Automation Cloud service delivery software, the solution hosts and syndicates cloud services such as SaaS applications, collaboration, and other virtualized services.

PRODUCT RELEASES

■ Parallels Mobile App

Parallels released a mobile app for iPad, iPhone, and iPod touch owners who use Parallels Desktop 6 for Mac or Parallels Desktop 6 Switch to Mac Edition. Parallels Mobile lets users access Windows apps running on a Mac from any network from any location via their devices. The app is built on the My Parallels services platform.

■ Perle Systems Media Converters

Perle Systems released Media Converters that can be managed through Secure Management Sessions in order to help customers protect enterprise infrastructures. User authentication, authorization, and privacy (packet encryption) are also available. You can also manage which users have read-only status, and which have full read and write abilities.

■ ProQueSys FlowTraq

ProQueSys has introduced FlowTraq, which is a full-fidelity netflow analyzer. It offers actionable intelligence to quickly relay information and instant forensics for a quicker recovery from data leakage, breaches, IP theft, botnets, and hardware failures. It also offers threat anticipation.

■ RF Code M250

RF Code announced the M250, a fixed reader designed to give customers in tag-dense environments and remote sites with poor network connections a better RF Code reader. The M250 features PoE (Power over Ethernet) and is compatible with all RF Code active RFID asset tags as well as environmental sensors in both wired and wireless network infrastructures.

■ SevOne Performance Appliance Solution

SevOne announced that its PAS (Performance Appliance Solution) now includes monitoring support for virtual server and Java environments. This extension allows for monitoring across virtual and physical environments, meaning that VMware and Java applications can be monitored from the same platform as other applications.

■ Smith Micro QuickLink Mobility

Smith Micro introduced QuickLink Mobility, which is designed to mix enterprise-level broadband data connectivity and VPN security with network roaming and session persistence. With QuickLink Mobility, IT managers can enjoy a mobile operator that ensures secure and reliable access to the corporate network for maximum employee productivity.

■ SolarFlare Communications EnterpriseOnload

SolarFlare Communications released its EnterpriseOnload application acceleration middleware, an open-source, Linux-based app accelerator that cuts application latency by 50% while increasing message rates by three to four times. The release also includes 802.1Q VLAN trunking support for managing and separating IP traffic and 802.1ad Link Aggregation support for higher bandwidth, load balancing, and redundancy.

■ Trendnet GREENnet Switch TEG-S16Dg, TEG-S24Dg

Trendnet released a pair of Gigabit switches that incorporate the company's GREENnet energy-saving technology. The TEG-S16Dg ($159.99) has 16 ports and a 32Gbps switching capacity. The TEG-S24Dg ($219.99), meanwhile, is a 24-port, 48Gbps version. Both can drop port power consumption by up to 70%, Trendnet says.

STORAGE

■ Atto ExpressSAS 6Gbps SAS/SATA Host Bus Adapters

Atto Technology announced that its 6Gbps SAS/SATA Host Bus Adapters and 6Gbps SAS/SATA RAID Host Bus Adapters have been proven to be compatible with Toshiba's 6Gbps SAS enterprise hard drives. The x8 PCI-E 2.0 cards feature Atto's Advanced Data Streaming technology, the company says.

■ Attunity Change Data Capture & Replication Software Enhancements

Attunity made performance enhancements to its change data capture and data replication software for Oracle databases, which aims to increase processing capacity for high transaction loads, including those found in telecommunications, financial services, and e-commerce. Enhancements include improved algorithms and optimizations specifically for Oracle databases. Benchmark tests have shown up to 40% increased throughput.

■ Bacula Systems Enterprise Edition 4.0

Bacula Systems announced the release of Bacula Enterprise Edition 4.0, which promises to deliver advanced backup features from open-source software for the first time. The Swiss company notes that this release provides the ability to manage multiple data centers, scales up to thousands of servers and clients, and offers file-level deduplication, as well as other advanced features.

■ Extensis Portfolio Studio Digital Media Archive Server

Extensis launched its Portfolio Studio, which is a Digital Asset Management archive server capable of auto-archiving and centralizing access to photos and project files with consistent metadata. Features include support for three simultaneous connections and indexed thumbnails and full-sized previews for fast queries. Portfolio Studio is currently available starting at $1,999.

■ Imation RDX 1TB

Imation announced that the RDX backup medium for small and medium-sized enterprises now comes in a 1TB cartridge. Imation's removable hard disk cartridge provides full forward and backward compatibility among its cartridges of many capacities, which start at 160GB. Pricing per cartridge ranges from $149.99 to $599.99.

■ Infortrend EonStor DS

A small-form-factor disk storage system has been unveiled for Infortrend's EonStor DS family. It offers a 2U chassis accommodating 24 2.5-inch disk drives with the option to include high-performance density. Additionally, these models come in either dual- or single-controller configurations and feature either 8Gbps Fibre Channel host connectivity or 1GbE iSCSI host connectivity.

■ LaCie Wireless Space

LaCie announced the LaCie Wireless Space, which is a Wi-Fi-enabled network-attached storage device that is ideally suited for home and small office users. The device enables multiple Mac and PC users to back up files wirelessly; connect to it as an access point; or deploy it as an Ethernet extender, switch, or router. The Wireless Space supports

LACIE

UPnP/DLNA and iTunes server for media streaming, Time Machine for automated backups of Mac computers, and utilizes 802.11b/g/n Wi-Fi protocols. The LaCie Wireless Space will be available in October in 1TB and 2TB capacities, starting at $229.99.

■ NetApp Integrated Data Protection Portfolio

Sunnyvale, Calif.,-based NetApp announced the release of enterprise-class content management and archive tools that the company says will enable customers to reduce storage requirements, simplify management, and provide consistent recovery for ECM. The enhanced suite of tools allows "hot backups" of applications, even when the application runs across multiple servers and storage systems.

■ Newer Technology Guardian MAXimus

Newer Technology introduced the Guardian MAXimus mini bus-powered portable hardware RAID storage solution. It is designed to handle "live activity" backup and data redundancy of critical data and provides storage capacity up to 1.5TB and data transfer speeds up to 300MBps. It also offers hardware RAID 1 redundancy for a mirrored copy of data, or RAID 0 for speed.

■ Quantum RDX

Quantum announced the release of its removable disk-based data protection system, Quantum RDX. The entry-level Quantum RDX features a dock (USB or SATA), removable cartridges, and Quantum GoProtect backup software for Windows, which reduces redundant data. RDX cartridges come with a 2.5-inch mobile hard drive and are available in 160GB, 320GB, 500GB, and 640GB capacities. Other features include flexible onsite and offsite backup, inter-

QUANTUM

changeable cartridges for multiple capacities, and data deduplication technology. GoProtect software restores system data with a drag-and-drop interface via Windows Explorer. Tabletop solutions with dock, removable cartridges, and software start at approximately $300; 160GB cartridges start under $150.

■ Pliant Lightning® LB 200M & LB 400M

Pliant Technology added a pair of MLC (multi-level cell) models to its Lightning line of enterprise flash drives, or EFDs. The new Lightning LB 200M and LB 400M feature 200GB and 400GB of respective capacity. They're 2.5-inch SSDs with dual independent SAS ports that have full-duplex capability and wide port aggregation support. Pliant claims performance in excess of 10,000 I/Ops (LB 400M) for a typical workload of 4KB file mixed reads and writes. Enterprise-class reliability features and

PLIANT TECHNOLOGY

the lack of a write cache make the new MLC offerings safe for use with important data, the company says. For more on this product, see page 29.

■ Seagate 1.5TB FreeAgent GoFlex

Seagate released the 1.5TB FreeAgent GoFlex, a 2.5-inch portable external hard drive. The FreeAgent GoFlex is compatible with Mac and PC, and it has a Superspeed USB 3.0 interface. The $249.99 drive comes with a suitable USB 3.0 cable and an NTFS driver for the Mac.

■ Stec Mach16

Stec announced a family of SSDs for enterprise server OEMs. The company formerly known as SimpleTech now sells the Mach16 line of drives up to 400GB in capacity. The new SSDs will sustain 4KB transfer speeds of up to 30,000 I/Ops, Stec says, although the company did not specify whether this represented read or write performance. It did say that

proprietary CellCare and SAFE (Secure Array of Flash Element) technologies will contribute to the drive family's longevity, speed, and reliability. The SATA Mach16 line will come in both MLC and SLC configurations.

■ Stec ZeusRAM

The latest SSD from Stec is a 6Gbps SAS drive that uses DRAM backed up to flash to secure a latency rating of fewer than 23 microseconds, the company says. The 3.5-inch drive is suitable for demanding applications such as database indexing, metadata logging, and journaling, Stec says.

■ StoneFly Cloud USS

StoneFly released the StoneFly Cloud USS, which is a storage solution appliance made for the cloud computing environment. The StoneFly Cloud USS uses a model of computing called IaaS (infrastructure as a service) that provides optimal hardware utilization, reduces power and cooling expenses, and allows the ability to allocate resources on an on-demand basis.

■ Viking Modular Element Serial Attached SCSI SSD

Viking Modular Solutions added the Element Serial Attached SCSI SSD to its SSD product family. The 2.5-inch SAS SSD includes a dual-port 6GB SAS interface and advanced parallel NAND channel architecture. The Element SAS SSD supports MLC, eMLC, and SLC NAND flash. SLC is available in 50GB and 200GB sizes, while MLC/eMLC configurations come in 100 to 400GB varieties.

SECURITY

■ Application Security AppDetectivePro 7

Application Security released AppDetectivePro 7. The new version of the database security, risk, and compliance

Go to Page 6

PRODUCT RELEASES

Continued from Page 5

program automates the database audit process and makes it more efficient for auditors and IT advisors. Additionally, it offers better contextual scanning and reporting features that let auditors standardize their processes. This decreases the manual efforts required for analyzing audit findings, and offers audit control mapping objectives to scan policies before scanning. Additionally, AppDetectivePro 7 offers built-in DISA-STIG (Defense Information Systems Agency Security

Technical Implementation Guide) work plan framework, with scan policies and questionnaire definitions for each database-specific version.

■ Attachmate Reflection For Secure IT 7.2

Attachmate released the Attachmate Reflection for Secure IT 7.2, a bundle of SSH servers for Unix, Linux, and Windows. The 7.2 version offers support for public key infrastructure and HPN file transfer. It also offers optimization over high-latency networks and specialized integration in Sun Solaris and IBM AIX.

■ Bocada Free Health Check With Bocada Prism

Bocada is now offering a free health check assessment aimed at providing Bocada partners a comprehensive review of their overall data protection environment, including uncovering the strengths of the current backup environment in place. The check will also detail improvements, problems, and courses of action.

■ DNF Security Falcon USS

DNF Security has released Falcon USS, the latest edition to its Falcon Series of security appliances. The company says USS is the first model that mixes VMS (video management software) with shared video storage in one hardware appliance. DNF states that the appliance is ideal for surveillance areas where many VMS applications are used or multiple edge

recorders are necessary in one system. The model comes in 3U and 4U rackmount chassis and includes hot-swappable drives and trays, a redundant 1200W PSU, and an advanced cooling system. The 1600wz and 2400wz models are available in 32TB and 48TB sizes.

■ eEye Digital Security Zero Day Tracker

eEye Digital Security announced the Zero Day Tracker, a free service designed to give companies the most up-to-date information concerning new Zero Day exploits as well as information on how to protect themselves. The service is a revamped version of eEye's Zero Day Alerts. The tracker will complement eEye's VEF (Vulnerability Experts Forum), which is a monthly Web event wherein eEye offers advice about the latest cyber threats. Designed to help keep IT workers apprised of the latest threats and how to fight against them, Zero Day Tracker is a free download, available from eEye's Web site.

■ Idappcom Traffic IQ V2.0

Idappcom released its Traffic IQ V2.0, which lets companies test and protect security systems. Some of Traffic IQ V2.0's features include an extended library of threats, security rules for IP filtering, a scripting engine, and enhanced reporting.

■ Identity Automation ARMS Identity Management Suite

Houston-based Identity Automation has released its latest suite of identity management tools. ARMS (Access Request Management System) is composed of four modules aimed at helping companies manage identity and system access. The Account Management, Group Management, Sponsorship, and Workflow modules are

distinct and freestanding but work well together for users who require all four functions. Additionally, the company's DSS (Data Synchronization System) is the engine that drives their identity, data, access and configuration management solutions. For more on this product, see page 31.

■ IBM InfoSphere Guardium 8

IBM announced InfoSphere Guardium 8, a security product designed to help companies protect sensitive data. Features include automatic monitoring of structured data and application usage, alerts about suspicious activity, simplified security and compliance regulations, stronger information governance controls, and lower compliance costs.

■ Tenable Nessus iPhone Application

Tenable Network Security released an iPhone version of its Nessus vulnerability scanner. It allows users to connect a Nessus server to their iPhone or iPod touch and perform security scans and review the

resulting reports. The free Nessus application features remote starting, stopping, and pausing of network scans and the ability to analyze scan results.

Messaging & Telephony

■ Polycom SpectraLink 8400

Polycom's SpectraLink 8400 series voice-over-Wi-Fi handsets feature bar code readers, a standards-based application platform, and what the company touts as the industry's broadest interoperability with 802.11a/b/g/n wireless infrastructure and market-leading UC platforms. According to Polycom, the 8400 series units offer the industry's lowest total cost of ownership—up to 33% lower than competing systems.

■ Vertical Communications Wave ISM 2.0

Vertical Communications announced the Wave ISM 2.0 software upgrade for Wave IP 2500 and Wave IP 500 Business Communication Systems. The upgrade includes multiple new features and field trials of Fax Manager and Voice Server 2.0, which include automated inbound and outbound applications.

Servers

■ Dell PowerEdge, PowerVault & PowerConnect

Dell announced the release of a suite of solutions aimed at helping growing businesses update their aging IT infrastructures with easy integration, minimal disruption, and with what the company calls "straightforward and easy pricing." The release includes PowerEdge servers, PowerVault storage, and PowerConnect networking solutions.

■ Oracle SPARC T3 Systems

Oracle released what it says is the industry's first 16-core server processor with the arrival of its SPARC T3 Systems. SPARC T3 systems range from single-socket, 16-core blades to four-socket, 64-core five-rack units. The systems can run on Oracle Solaris and Oracle VM for SPARC and work in tandem with Oracle Database, Fusion Middleware, and Oracle Applications.

■ Oracle VM Server For SPARC 2.0

Oracle announced its VM Server for SPARC 2.0 server virtualization solution. It is preinstalled on the company's SPARC T-Series servers and allows for up to 128 virtual servers to be run on one system. It also features the capability of running multiple OS environments.

Clients

■ IBM Customer Experience Suite

IBM announced the IBM Customer Experience Suite, software designed to improve an enterprise's customer interactions via online or mobile avenues. Features include analytics, social networking, Web content management, portal, mashups, and mobile capabilities. The company says the suite will help enterprises better understand and influence visitors.

■ Kyocera FS-C2026MFP & FS-C2126MFP

Kyocera announced the release of two multifunctional printers, the FS-C2026MFP and FS-C2126MFP. Both can color print, copy, and scan, and both use the 200,000 page preventive maintenance schedule and meet Energy Star guidelines. Features include a 50-sheet document processor, 300-sheet capacity, 768MB of memory, front-loading USB interface, and PowerPC446 667MHz processor.

■ Motorola Solutions MC959B

Motorola Solutions announced the release of the MC959B, a ruggedized handheld mobile computer with user-selectable WAN. The MC959B allows users to select their preferred 3G cellular network; it can be deployed on multiple networks and will switch between 3.5G GSM HSUPA and 3.5 CDMA EVDO Rev A connections. According to the company, the device—designed for mobile field workers—is the industry's most rugged mobile computer. The MC959B is one of the first handheld industrial mobile computers to use Qualcomm's Gobi connectivity technology—an embedded mobile wireless solution designed to decrease connectivity limitations.

Services

■ Lee Technologies Lee Genesys

Data center technology provider Lee Technologies announced Lee Genesys consulting services. Aimed at helping SMBs maximize the efficiency of data center projects ranging from new construction to consolidation, Lee Genesys is an assessment program that helps clients define and meet their data center infrastructure requirements while avoiding unnecessary overbuilding.

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Shut Down Comatose Servers:
Underutilized Servers Cost Money, Impact The Environment

BY ROD SCHER

If green tech has as its twin goals energy efficiency and environmental responsibility, then shutting down comatose servers (machines that are consuming energy but not doing any useful work) is the perfect complement to virtualization: Both result in increased efficiency and a reduced environmental impact. While virtualization generates more return from a given investment, shutting down unused servers completely frees up that investment.

Let's face it: Although much savings can be realized by virtualizing underutilized servers, there are probably servers (some estimates run as high as 30%) in your data center doing absolutely nothing. These are not merely underutilized, they're essentially useless. A conservative effort pegs the ongoing energy costs of each of those servers at about $400 or so yearly. Of course, that's simply the cost of energy and does not take into account whatever you're spending on software or maintenance or on related manpower costs. Perhaps most importantly, it does not take into account your initial CAPEX investment, nor the opportunity costs associated with having expended a large portion of your CAPEX budget on equipment that is going largely unused.

Why Do We Have Comatose Servers?

One would think that comatose servers are low-hanging fruit: Have servers that aren't doing anything? Well, find 'em and unplug 'em. But if it's that easy, why do they exist in the first place? And if harvesting comatose servers is an inexpensive way to reduce both IT costs and environmental impact, why do they continue to exist? Ken Brill, founder of the Uptime Institute (www.uptimeinstitute.org), attributes the problem to a management hole resulting largely from reduced data center headcount. With fewer people on staff, no one is assigned to do asset management. In effect, no one knows who "owns" all of these assets, let alone what sort of shape they're in or what they're being used for.

Some comatose servers are simply the result of institutionalized knowledge: Legacy servers are left plugged in because they still have files on them, and those files might be important to someone. In any case, the (now understaffed) IT department is busy responding to the day's collection of crises, so who has time to move the files? Who even knows what they are or who needs them? (In reality, the answer may be that no one needs them; they're obsolete, just like the server on which they reside.) As Brill pointed out in a Forbes interview, "After weeks or months pass and employees turn over, the details of what can be removed will be forgotten, and it becomes a major research project to identify what is not needed."

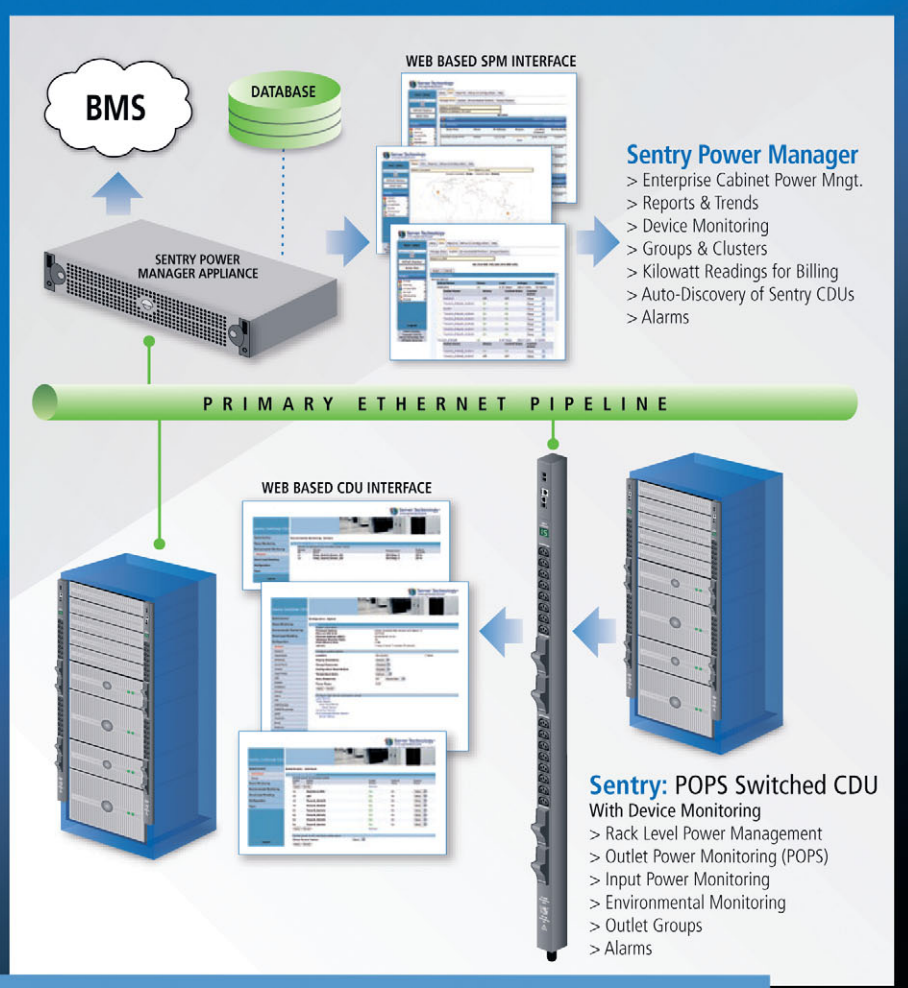
Solving The Problem

The ability to locate and shut down comatose servers presumes two things: the ability to enable detailed monitoring of those servers and the motivation to do so.

Monitoring can pay big dividends. If you install and use monitoring software on every server, you'll quickly discover which servers are underutilized, which are bandwidth hogs, which are repeatedly bottlenecked, and which ones are simply comatose. Use monitoring to trigger alerts after a certain amount of time has passed, so you can know when servers may be approaching end-of-life.

The motivation question is harder to address. Because IT doesn't generally pay the power bill, there may be little incentive for IT to be energy efficient. But experts recommend getting staff involved in green tech initiatives and perhaps instituting rewards for staff who find ways to save money, increase efficiency, and reduce the company's environmental impact. This approach can go a long way toward making IT staff feel some ownership of the issue.

How Do You Measure the Energy Efficiency of Your Data Center?



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> Enterprise Cabinet Power Mngt.
> Reports & Trends
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> Groups & Clusters
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Upcoming IT Events

For more Upcoming IT Events, see page 3.

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New Horizons Computer Learning Center
Lexington, Ky.
www.nhlexington.com

• • • • •

Interop
Oct. 18-22
Javits Convention Center
New York, N.Y.
www.interop.com/newyork

• • • • •

AITP Long Island
Oct. 19
www.aitp-li.org

• • • • •

AITP Southwest Missouri
Oct. 19
Springfield, Mo.
aitpspringfield.org

• • • • •

ISSA St. Louis Chapter
Oct. 19
St. Louis, Mo.
stl.issa.org

• • • • •

Oklahoma City AITP Chapter
Oct. 19
Oklahoma City, Okla.
www.aitp.org/organization/chapters/chapterhome.jsp?chapter=40

• • • • •

AFCOM Central Ohio
Oct. 20
Columbus, Ohio
www.afcomcentralohio.org

• • • • •

AITP Lehigh Valley
Oct. 20
Fleetwood, Pa.
www.lv-aitp.org

• • • • •

AITP Northeastern Wisconsin Chapter
Oct. 20, 4:15 p.m.
Holiday Inn Select
150 S. Nicolet Road
Appleton, Wis.
new.aitp.org

• • • • •

AITP Atlanta
Oct. 21, 5:30 p.m.
Crowne Plaza Atlanta Perimeter NW
6345 Powers Ferry Road NW
Atlanta, Ga.
www.aitpatlanta.org

• • • • •

AITP Greater Boston
Oct. 21
Phillip's Old Colony House
Dorchester, Mass.
www.bostonaitp.org

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AITP Omaha
Oct. 21
Omaha, Neb.
www.aitpomaha.com

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COVER FOCUS

Disaster Recovery Planning

Cover All The Bases Before The Worst Happens

by Bruce Gain

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A FIRE ERUPTS in the middle of the night in your enterprise's warehouse that quickly spreads to the server room just a few walls away. Although the local fire department arrives in less than 10 minutes and quickly extinguishes the flames, the data center's entire cooling and power infrastructure is destroyed, along with several mission-critical servers. The data center will not be operational again for several weeks.

At the start of the following business day, there are no working servers with which to take and send orders, meaning the enterprise will no longer be able to generate revenue. In the IT department, nobody seems to know how the backup systems work or even where the backed-up data and applications are. The CTO knows that a disaster recovery plan was completed a few years ago but is unfamiliar with the specifics, and the person who set up the plan is mountain-climbing in Tibet and is not reachable by phone or email. The scenario is frightening, but unfortunately, it is all too representative of what can happen when disaster strikes.

Here are some ways to better plan for disaster recovery so that if the worst does happen, your enterprise's server applications can be back up and running quickly.

Prioritize & Organize

The importance of applications and data varies, so disaster recovery planning should likewise prioritize what gets recovered first in the event of a disaster. "If you have 10 servers, there might be three that are mission-critical that everyone needs to do their job all day long," says John Matzek, CEO of Logic IT Consulting. "But some servers might be less important, so that if you turn them off, nobody would notice for a few days."

Prioritizing should involve gathering input from people outside of the IT department. "Instead of getting the email server to work first, the executive knows that the impact if the calendar is unavailable is more significant," Matzek says. "That is why it is important to have the input from everybody in the different departments to prioritize so everybody understands what is important."

Remember, too, that the best disaster recovery plan is not much good if only one person has everything in his or her head and is missing on the day things go wrong. That is why it is essential to make sure that plans are widely documented and that pertinent information is readily available, says Bryce Edwards, general manager of complex infrastructure and managed hosting for The Planet (www.theplanet.com). "Even make sure that you have cheat sheets printed out in hard copies with important contact details and escalation procedures that IT [staffers] have and keep in their wallets," Edwards says. "The IT staff also needs to know whom to contact, so whether it is different technical, facility, [or] data center providers, etc., you need to know."

Carefully Plan Backups & Management

Admins are constantly assessing data center and network capacity needs, but don't forget to adjust the capacities needed for adequate backups as part of disaster recovery planning. "It is not an either/or model, because you have to think about planning in such a way that integrates your data center's data and applications with the backups," says Clemens Pfeiffer, CTO for Power Assure (www.powerassure.com). "For that matter, any capacity improvements should improve disaster recovery, as well."

Plans must also cover strategies for any office, regardless of location. At the same time, disaster recovery plans should also involve drawing on admins from locations offsite on an as-needed basis to manage other data center locations remotely in the event of a disaster. However, having too many people doing too many things can also cause problems in the event of a disaster. "You don't want to have too much help in certain areas that can cause it to be more chaotic," Edwards says.

To combat having too many cooks in the proverbial kitchen, admins should clearly outline who does what in their disaster recovery plans. "You need to outline what staffers need and can do and clearly outline whom you need to contact to get approval from before you start," Edwards says.

It is also necessary to spell out what IT staffers should not do. "Somebody from the security team might try to figure out how to get a Web site switched over but who doesn't know all of the ins and outs and details," Edwards says. "Instead, you have to make sure the security team, Web [management teams], and facility groups know what they are supposed to do and what they are not supposed to do. They need to know the boundaries."

Don't Forget About The Business

Given the technology options from which admins can choose to recover from a disaster, it might be easy to forget that disaster recovery planning must ultimately serve the enterprise's business needs first. "Today, IT infrastructure is undergoing radical change as a result of virtualization, cloud computing, globalization of customer markets, and supply chain; however, the fundamentals of business continuity and disaster recovery are still the same," says Michael Croy, director of business continuity solutions at Forsythe Technology (www.forsythe.com). "The most basic principle is that disaster recovery covers not only technology, but the services a business relies on and provides. It's about the resiliency of those services, and it includes people, processes, and the whole supply chain," Croy says. "Every organization needs to be aware of its own ability to recover from a business interruption and also be aware of the capabilities of its suppliers, including any cloud service, software-as-a-service, or platform-as-a-service providers."

So although disaster recovery solutions continue to evolve, the fundamental questions remain the same for disaster recovery planning. For example, Croy says disaster recovery planning must ensure that the organization knows which processes and applications are mission-critical and how quickly mission-critical processes and applications can be restored. Proper planning also should involve assessing potential business impacts of interruption and making sure IT admins and business leaders close any gaps between their recovery needs and their recovery capabilities. P

Key Points

- Disaster recovery planning should be an ongoing and constantly evolving process. Finalizing plans and then waiting for a disaster to happen is not recommended.
- A disaster recovery plan is only as good as the document that staffers must use and rely on in the event of a disaster.
- Planning should prioritize quick restoration of applications and data that users require with less emphasis on nonessential systems.

Best Tip: Go Active-Active

Once the perfect plan is in place, many might think it is OK to step down and move on to another project while hoping for the best if and when disaster strikes. Jack Norris, vice president of marketing for Power Assure (www.powerassure.com), describes this wait-and-see approach as a "passive-active" process. Instead, planning for disaster should be an ongoing process, which Norris describes as "active-active" planning. "Continually making sure that disaster recovery plans are ready to be executed at any time is an 'active-active' approach," Norris says. "Whether enterprises have their own site or whether they take advantage of hosted opportunities, active-active is viable regardless of the size of the enterprise."

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News

IT Industry Sees Growth In Employment Rate

There's good news in the wake of the recession for those looking for IT-related jobs. According to TechAmerica Foundation, about 30,200 tech jobs were added in the first six months of this year, compared to a loss of about 143,000 jobs during the same time last year. However, many aren't sure if this growth trend will continue. Industry analysts say that growth will be slow as the country continues to rise out of the recession but that any increase in employment is a good sign that companies are looking to hire again.

SCO Selling Unix Assets

The SCO Group plans to auction off "substantially all" of its Unix business, according to a recent announcement. The items up for grabs, the company says, are "free and clear of liens and encumbrances" related to its 2008 filing for Chapter 11 bankruptcy protection. Items being sold include Unix System V software and services. SCO drew much attention in 2003 when it unsuccessfully sued IBM and later Novell over Unix, the former for allegedly infringing on contributions to Linux source code and the latter regarding the ownership of Unix IP.

Gartner: IT Debt To Reach $500 Billion

According to Gartner, global IT debt will total about $500 billion this year, and it could reach $1 trillion by 2015. IT debt is defined by Gartner as the cost of clearing out the backlog of maintenance that would be required to bring an enterprise's applications fully up-to-date. The gap is largely the result of shrinking IT budgets over the past decade, and Gartner says the debt is higher than ever before and could pose a serious risk to organizations' business systems. Gartner recommends that enterprises create annual status reports on their application portfolios to keep track of applications and ensure that they don't become obsolete or break down.

Six Companies Accused Of Anticompetitive Hiring Agreement

Google, Apple, Intel, Adobe Systems, Intuit, and Walt Disney's Pixar Animation Studios have reached a settlement with the U.S. Department of Justice in which the companies agreed to end anticompetitive hiring practices. After an initial (and ongoing) investigation into employer practices, the DoJ filed a complaint concerning the companies' agreement not to poach top employees from one another. According to the DoJ, such a pact limits the employees' opportunities to compete for top positions, in turn eliminating the possibility of bidding wars or higher salaries for those employees. The settlement will prohibit companies from entering into such an agreement.

COVER FOCUS

Test Your Disaster Recovery Plan

A Few Steps Today Will Save Your Data Center Tomorrow

by Chris A. MacKinnon

• • •

No data center is exempt from disaster. The truth is disasters happen all the time, caused by such things as human error, system breakdowns, and natural disasters. Worst of all, you never know if or when it will happen to you. The main question is: Are you ready for a disaster if it happens to your data center? Part of being ready for a disaster in the enterprise is knowing how to test a disaster plan and also how often you should test it. Here are a few suggestions to help you prepare for when disaster strikes.

Key Points

- Walkthrough tests, in which a hypothetical disaster is posited and the team walks through the plan for resolution, should always occur first. These tests can help find gaps and oversights in the plan itself.
- An effective way to test a disaster plan is through simulation tests, which should be run at least once a year. Try a number of scenarios when you test the plan.
- Testing a plan is also about discovering mistakes, oversights, and errors in the plan and supporting infrastructure.

The Plan Is A Priority

James Quin, lead research analyst with Info-Tech Research Group, says a disaster plan should be a priority in any data center. Quin says disaster preparedness ensures that the IT operations of an enterprise are able to recover from some form of outage-inducing interruption. "Given that enterprises these days are essentially completely reliant on their IT operations to perform their business operations, the ability to recover from such outages means that they are able to continue to operate as a viable functioning business," Quin says. (For tips on what to include in your disaster recovery plan, turn to "Disaster Recovery Planning" on page 8.)

According to Steven Rodin, CEO of Storagepipe Solutions (www.storagepipe.com), a number of trends are pushing the increasing need for data center disaster planning. First, Rodin says data is growing at an alarming rate; in fact, many companies are reporting data growth rates of 50% or more per year. Secondly, he says the current trend for business is moving toward a geographically dispersed, 24/7 service model. "Customers want to submit purchase orders online, pay bills online, and access their accounts through customer-facing online portals from anywhere, at any time," he says. "The productivity cost of unplanned downtime is increasing, and so is the revenue cost from lost transactions and service failure."

Rodin says that although it might be tempting for businesses to improve server performance and storage efficiency by implementing more aggressive deletion policies, regulatory compliance demands are forcing them to keep older data on file for several years. He says that as the rate of data production continues to grow, it creates a snowball effect. "Another trend is that companies are cutting back on their IT spending, training, and staffing because of difficult economic conditions," Rodin says. "This increases the likelihood of unexpected disasters."

Testing Methods

In Quin's opinion, there is a well-established hierarchy of testing types for disaster recovery infrastructure and operations. "Walkthrough tests are essentially document reviews where a hypothetical disaster is posited and the team walks through the resolution according to the details outlined in the plan," he explains. "These tests should always occur first and are used to find gaps and oversights in the plan itself."

Quin says after walkthrough tests, there are simulation tests and parallel tests. "In the former, the recovery infrastructure is brought online to make sure processes work and that systems can be made functional," he says. "In the latter, historical data is processed to ensure appropriate results are generated." Only after all these types of tests have been conducted should an interruption test (wherein production processing is failed over to the recovery site) even be considered, Quin says.

Rodin, on the other hand, says the only effective way to test a disaster plan is through simulation tests that are run at least once a year. And when you test your plan, Rodin says, you should try a number of different scenarios. "For example," he says, "what if your CEO's laptop was stolen and it contained important data? Or what if human resources needed to retrieve six years' worth of old files for a wrongful dismissal suit—how long would it take you to search through six years of historical email and locate all conversations relating to a specific topic, theme, or incident?"

Rodin says another consideration is how quickly you can recover a critical server in the event of power failure causing disk failure. Additionally, how quickly can you rebuild a server from bare metal? And if the data center caught fire, how much downtime would the company have to endure before coming back online? How long would this take? And how long would it take you to set up a new server at another location on a moment's notice?

As far as frequency is concerned, Quin says that, realistically speaking, enterprises should be continually testing their plans. "The point of testing is less about building the skills to operate the plan in the event of a disaster than it is about discovering mistakes, oversights, and errors in the plan and supporting infrastructure," he says, adding that as each error is found and corrected, subsequent testing is needed.

Quin says enterprises should try to avoid testing the disaster recovery in "broad strokes." He says the likelihood that catastrophic failures will occur is far lower than the likelihood of localized "small-scale" outages. "Further, broad testing requires a tremendous leveraging of resources, while scenario testing can be accomplished with less effort," he says. "Over time, the sum of the work performed in scenario testing will more than equate to the gains that can be made with catastrophic failure testing." P

Top Tip: Work With Trustworthy, Capable Vendors

According to Steven Rodin, chief executive officer at Storagepipe Solutions (www.storagepipe.com), when it comes to disaster recovery planning, corporate data protection is very complex. "You have to deal with many different systems (email, databases, operating systems, laptops, compliance, high-availability, etc.), and each of these requires a different disaster protection approach," he says. "The best advice would be to pick a partner that offers many different types of business data protection solutions and to have them put together a tailored disaster recovery plan based on your IT needs." He concludes, "When you work through a trusted vendor for your entire backup, recovery, and availability systems, it simplifies your IT management and reduces or eliminates the possibility of overlap, waste, or system conflicts."

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News

Study Shows Slow Maturity In Green IT

Green IT adoption is progressing slowly, according to a Fujitsu survey of green IT performance in the United States, United Kingdom, Australia, and India. The report shows an overall low-level maturity index in green IT practices, with an overall score of 56.4 out of 100. The UK leads with a Green IT Readiness Index of 61; the United States has an index score of 58.6. The Fujitsu study found that there's also work to be done in terms of the metrics used to measure and monitor green IT.

According to Jim Bradbury, vice president of enterprise business services at Fujitsu, for the past five years, green IT initiatives have developed slowly because they have been perceived as being costly, with a lack of awareness regarding cost savings. In addition, there is no systematic approach to establishing green IT practices, and enterprises have been working to force green IT issues through policy rather than gaining adoption through personal empowerment and ownership.

Bradbury says small to midsized enterprises have yet to keenly direct their focus toward improving green IT programs in general. "Fujitsu has found that green IT has not reached a state of collective awareness at the SME level (less than $1B in revenue). This could be attributed to the challenges of doing more with less in the current economic climate," Bradbury says. "The focus tends to be on meeting the operational needs of the business, unless there is executive sponsorship around sustainability."

The Need For Sustainability

"The first step is to actually accept the need for a sustainability strategy, as energy costs are only going higher and climate change is not going to go away," Bradbury says. "For example, if 1,000 companies with 500 PCs each turned off their machines at night, we could reduce annual energy consumption by an average of 74 million kW hours, which is equivalent to removing 28,000 cars from the road."

CIOs should view increasing emissions and energy costs as a call to action, Bradbury says, and every incremental action will result in a significant benefit.

"Five years from now, I envision green IT becoming the new norm. In the meantime, however, organizations should begin their foray into green IT by first assessing [the organization's] culture and respective level of readiness," Bradbury says. Once an enterprise has gauged its readiness, he says, it can work to identify compelling green IT initiatives and gain executive support.

by Joanna Clay

COVER FOCUS

Tips For A Successful Recovery

Coming Back From The Brink

by Sixto Ortiz Jr.

• • •

Whether they're due to natural causes, sabotage, or equipment failures, data center disasters can have serious consequences for a business. Besides the immediate expenses incurred, there is a potential for loss of confidential data and perhaps irreparable damage to a company's reputation.

In the midst of a crisis, it's difficult for admins to focus on anything other than getting the data center back online and recovering any critical data. Implementing a recovery from a data center disaster is vital; whether that recovery is successful hinges on the readiness of a business to deal with an unthinkable disaster.

Assess What's In The Data Center

In the aftermath of a disaster, it is important for admins to know what data resides in their data centers so it can be quickly determined what needs to be recovered. Without that knowledge, recovery efforts will flounder and precious time will be wasted.

Dr. Mickey S. Zandi, managing principal, consulting services, SunGard Availability Services (www.availability.sungard.com), says SMEs that need to recover from a disaster must understand the level of system interaction and interdependency. Admins must know what is in that data center and the applications, systems, components, and elements operating in the data center. Then, personnel must understand how those components are linked to each other.

Involving the business can improve the assessment process by helping administrators properly prioritize recovery efforts. Karen L. Cole, CBCP, SPCI, and CEO at Assura Consulting, says admins should get input from the business on expectations for recovery times of systems and data. IT sometimes assumes that all data in the data center must be immediately available, which is not the case. Having the business establish recovery requirements reduces the cost of IT recovery strategies and the stress on IT teams involved in setting recovery priorities by determining what needs to be immediately recovered and what can wait.

Have Backup, Will Travel

For recovery efforts to flow smoothly, admins should be prepared to deal with data center disasters well before they occur. But, what specific items should admins focus on when preparing for recovery?

A required area of preparation is planning and deploying a secondary data center that runs the same applications concurrently and delivers the same services under the original SLA, says Nir Ilani, director of product marketing for application delivery at Radware (www.radware.com). Rolling out such a project, Ilani says, involves covering all data center operational aspects, including storage, networking, servers, electricity, and cooling.

Administrators must also take into consideration capacity demands and the projected load at the time of a disaster. Once in place, a global server load balancing solution should be implemented in both data centers so all traffic and user transactions are transparently redirected to the secondary data center, he adds.

Cloud computing can also have real-world utility in terms of disaster recovery. The easiest way to utilize a cloud computing approach is to simply back up data to the cloud, says Andi Mann, vice president of virtualization product marketing at CA Technologies (www.ca.com). But, administrators can go beyond simple backups to the cloud by choosing to back up applications, systems, and even entire services to the cloud. This, he adds, will require the ability to run the entire system and application stack in an offsite location.

Easily Forgotten Considerations

Many data centers have generators, but without fuel, those generators are useless. According to Cole, many data center managers do not have an agreement with a fuel provider that can provide emergency service. This leads to slow service and price gouging as administrators scramble for fuel supplies, so service levels for processing should be negotiated ahead of time. This will ensure that the required power is available during disaster recovery operations.

Another important consideration, Ilani says, is the potential for massive traffic surges for Internet-based services during a disaster, which could amount to 50 times more than routine traffic. Thus, admins must ensure that network infrastructures are able to process such an increase in capacity and must scale capacity on demand.

The ability to perform actions remotely is also critical to implementing a successful recovery. Jeffrey Godlewski, technology specialist at CDW (www.cdw.com), says organizations should determine which functions and specific positions are compatible with remote work, even if they are not typically done remotely. Administrators should also consider how well telephone and messaging systems will support personnel redeployment and should analyze telecommunications bandwidth and whether it is sufficient to support the redeployment of all remote-capable positions, he adds.

Other considerations along the area of remote work capabilities include the remote access technology in place and its ability to scale, the deployment of sufficient remote or mobile computing devices, and an assessment of available remote access security tools and their scaling capabilities to support redeployment of personnel, he adds.

Backup & Restore Considerations

Having data backed up provides organizations with peace of mind, but a number of items must be carefully considered prior to restoring data. Jeff Pederson, manager of data recovery operations for Kroll Ontrack (www.krollontrack.com), says backups should be restored to a different volume to ensure that all important files are correct and secure on the backup before potentially overwriting data on the active volume. Pederson also recommends that if there is a RAID problem, personnel should test the backup by restoring it to a different location or image on each drive from the RAID before attempting a rebuild. Sometimes, he adds, a RAID rebuild does not work correctly and can make a problem even worse.

Also, Pederson says, personnel should not create any new files on the disk needing recovery or continue to run virtual machines until the important data is recovered. This is because new files can overwrite the files needing recovery if restoring the backup fails. Virtual machines using snapshots and thin provisioned virtual disks still in use after the data loss can overwrite files that need recovery. Personnel should also avoid running file system repair tools on a virtual disk unless a good backup has been validated by restoring it to a different volume. These repair tools assume there is a good backup of the data and can overwrite file pointers to make a system consistent.

Finally, in a flood situation, Pedersen says, hard disk drives should be kept as moist as possible to prevent disk corrosion and allow recovery experts to clean and dry the platters correctly with minimal damage to the platter surfaces. If the drive dries out, he adds, there is potential for damage or destruction to the platters, making it more difficult to retrieve data. P

Key Points

- Preparation for a successful disaster recovery must take place well in advance of any incident.
- Disaster recovery and business continuity plans must be rehearsed frequently enough so all personnel know their roles and are able to execute them to perfection.
- Personnel must think of the unexpected. Seemingly minor considerations are easily forgotten and can become huge at the worst possible time.

Top Tip: Follow Simple Steps In The Event Of Disaster

Rakkhi Samarasekera, an information security specialist and CEO of RS Security Consulting, recommends the following steps to execute a successful recovery.

- Don't panic.
- Execute the plan.
- Confirm that a full data center failure has actually occurred.
- Mobilize the team; have a call tree in place to reach the right people.
- Execute the disaster communications plan.
- Get authorized personnel to declare the disaster and invoke disaster recovery and business continuity plans.

FEATURED COMPANY

Save Money Equipping Your Business

Refurbished Hardware From World Data Products Offers A Great Alternative To New

by Kris Glaser Brambila

• • •

Outfitting your business with the IT hardware it needs to ensure continuous availability and reliability is one of your company's biggest investments, so you want reassurance that the products you purchase are dependable and priced fairly.

WDPI (World Data Products Inc.) is a Minnetonka, Minn.,-based provider of new and refurbished IT equipment. The company has been supplying enterprise and government customers with servers, storage, and networking solutions for more than two decades. Brandon Kasper, marketing specialist at WDPI, says the company also offers services for its products. "We offer maintenance, repair, and upgrades for every product we sell," he says.

Although WDPI offers new-in-box hardware, it is also considered one of the largest retailers of refurbished hardware—used hardware that has been cleaned, repaired, and tested to make it like new. "We have a team of technicians on staff that makes sure everything that leaves WDPI will work after it is installed," Kasper says.

In fact, WDPI's refurbishing process includes six major steps: physical inspection, diagnostics and configuration, parts replacement, testing, cleaning, and quality control inspection to ensure the product meets WDPI's standards.

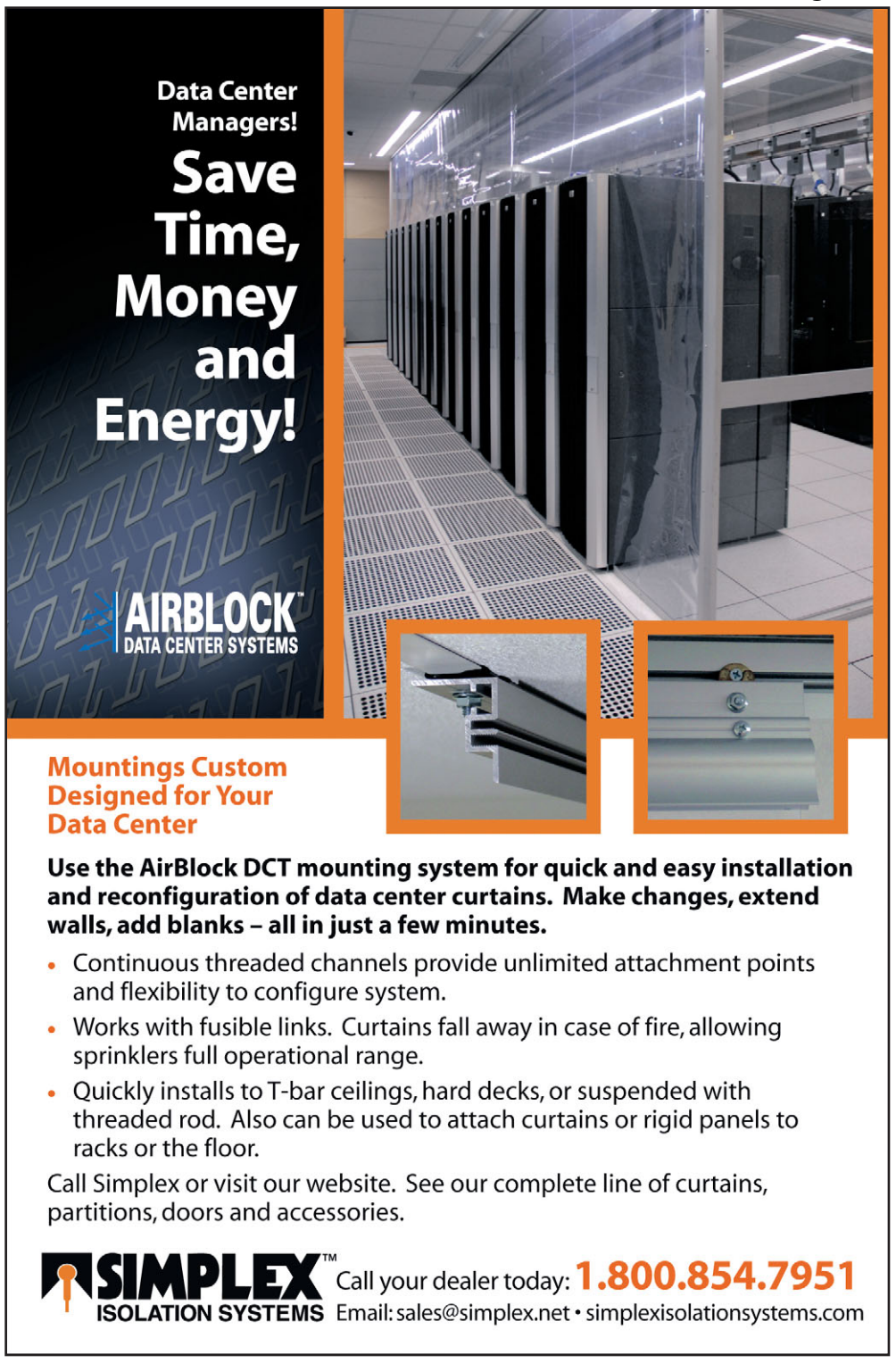
The benefits of choosing refurbished hardware over brand-new hardware are convincing. For starters, there's a significant cost savings—up to 50% or more—for products that work as if they were never used. "Refurbished hardware will do exactly what new hardware does at a fraction of the cost," Kasper says. Refurbished hardware is also kind to the environment and helps businesses be green. Kasper says, "The longer you can keep a server or a hard drive in commission, the longer you keep it out of landfills and trash facilities."

World Data Products Inc.

(877) 777-5114 | www.wdpi.com

Offers new and refurbished servers, storage, and networking hardware, plus maintenance, repair, and upgrades.

WORLD DATA PRODUCTS



Optima EPS IT Cabinet

NEW PRODUCT

by Nathan Lake

Optimize Your Cabinets With A Modular Design & Intelligent Cable Management

Managers whose data centers feature cable-intensive applications know that cable-heavy installations pose airflow and space challenges. Designed with these challenges in mind, the IT cabinet from Optima EPS offers advanced cable management features, including brackets, d-rings, Velcro straps, bundle retainers, and more. Optima EPS builds the IT cabinet using an extrusion-based, modular design that lets the company customize the cabinet to suit customers' specific needs. For example, those most concerned about thermal management and airflow can order a unit with a brush cable manager that contains airflow, fan trays installed, and extra top cabinet exhaust and blowers.

To provide extra space for excess cabling, the shape of the IT cabinet's front and rear doors are convex, and the unit also offers front and top rear cable access panels. For convenience, the IT cabinet features independent removable sides, panels, and doors, as well as integrated ground points. The unit can handle up to 6,600 pounds static load and features advanced EMC (electromagnetic compliance) shielding, which is ideal for broadcast and server environments where signal quality is crucial. Optima EPS can also ruggedize the cabinet for seismic-ready or mobile applications.

Optima EPS IT Cabinet
A modular cabinet with features designed to meet the cable management needs of broadcast and server environments.

Indeed, one of the primary advantages of the IT cabinet is customization. Optima EPS offers multiple EIA-310 standard mounting rail options, including IEC 60297-2, and customers can also choose to incorporate power conditioning into the IT cabinet. And as with all of Optima EPS' cabinets, customers can select from a wide range of accessories and powder paint colors.

Optima EPS
Cabinets & Enclosures
An ELMA Company

(770) 496-4000
www.optimaeps.com

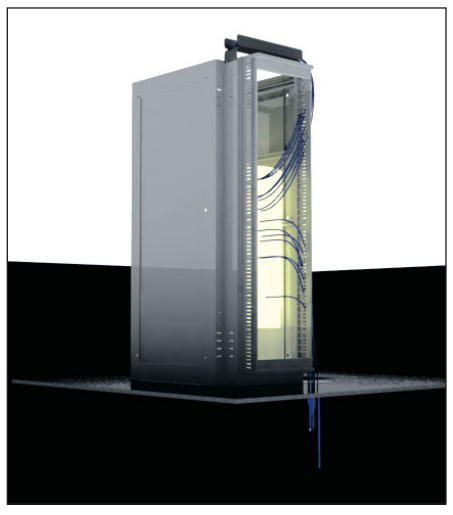
AFCO Systems HDS 10

NEW PRODUCT

Cool Your Switches

Data center professionals often struggle with the challenges of providing adequate cooling for enterprise-class network switches without giving up precious floor space in their data centers. In fact, a typical enclosure for this class of switch often requires a large footprint to aid airflow for cooling. Data center trends such as the use of FCoE (Fibre Channel over Ethernet), I/O virtualization, and unified infrastructures are driving the need for higher-density switches that have increasing heat loads. And then there is the problem of dealing with side-breathing network switches in an otherwise front-to-back data center configuration.

AFCO Systems (www.afcosystems.com), an expert in enclosure airflow management, has solved these footprint, configuration, and high-density heat load problems with its HDS 10 data center enclosure by using a bottom-to-top airflow design. The new HDS 10 Network Switch Enclosure is engineered for the Cisco Nexus 7018 network switch. Its design provides data center managers with an extra level of confidence in maintaining switch performance and reliability.



AFCO Systems HDS 10
Solves the high-density heat load problems caused by higher-density switches such as the Cisco Nexus 7018.

By utilizing AFCO Systems' advanced airflow management technology, the new switch enclosure is able to provide the necessary cooling with a 25% smaller footprint in the data center compared to other cabinets. Additionally, the enclosure is designed to accept cabling from overhead and/or under floor feeds. It uses a series of vertical and horizontal cable managers, in a dedicated cable management chamber, that help route and secure each connection efficiently while minimizing the cabling's impact on airflow.

AFCO Systems
Datacenter Resource Solutions

(631) 249-9441
http://afcosystems.com/enclosures_hds10.aspx

News

Tech Execs & Feds Meet About Cloud Computing

During the sixth annual Business Software Alliance CTO Forum, executives from 13 top software and computer hardware companies met with federal officials, including members of Congress and Federal CIO Vivek Kundra, to discuss ways to successfully deploy cloud solutions across federal agencies. Discussions focused on cybersecurity legislation in addition to when it's ideal to use a cloud solution, how to implement it, and how governmental policies can contribute to new innovations in cloud computing. Some government agencies and Web sites, including Recovery.gov, have already switched to cloud computing.

RIM Retains Smartphone OS Lead

BlackBerry maker Research In Motion saw its market share drop 1.8% between the first and second quarters of this year, but it maintained its control over the smartphone OS market, with a 39.3% share. That's according to ComScore's MobiLens service, which recently released data from the three-month period ending July 2010. ComScore found that Apple's share also dropped, but it stayed in second place with 23.8% of the market, compared to its previous 25.1%. Google's Android jumped 5% from 12% to 17% and overtook Windows Mobile (down from 14% to 11.8%) for the No. 3 spot. The study also found that overall smartphone use increased 11% to 53.4 million users in the United States.

Android Phone Use Growing At Enterprises

ChangeWave Research reports that the use of Android devices in corporate settings has outpaced the growth of iPhones in the past three months. According to the survey conducted in August, 16% of respondents say they chose an Android-based phone during the most recent three months, which is up 60% from three months prior. The number of respondents that chose the iPhone was up just 3% during the same timeframe, although the iPhone still claimed more of the overall market, with 31% of respondents having chosen the iPhone as the company smartphone. Research In Motion maintained its overall lead with 66% of organizations reporting BlackBerry use, but that number has dropped by 4%.

Salesforce.com's Benioff Tops In CEO Approval

Careers site Glassdoor.com recently allowed corporate employees to review their workplaces and found that when it comes to CEO approval ratings, Salesforce.com's Marc Benioff ranks on top. Posting an approval rating of 90%, Benioff beat out competitors such as SAP co-CEOs Jim Hagemann Snabe and Bill McDermott with 80% approval; Oracle's Larry Ellison, who registered at 78% favorable; IBM's Sam Palmisano with 52%; and Microsoft's Steve Ballmer, who had a 51% approval rating. The ratings were based on workers anonymously reviewing their places of employment, including rating job satisfaction and salaries.

COVER FOCUS

IT's People Problem

How Training & Communication Can Decrease The Chances For Human Error

by Bridget Mintz Testa

• • •

"Smoking crater" and "data center" are two phrases you never want to see in the same sentence. Yet just such a failure resides in the Uptime Institute's Abnormal Incident Reports database, an ongoing 10-year compilation of downtime events at data centers. Analysis of the database reveals that 70% of data center downtime events are caused by human error.

The data center isn't the only IT realm where human error takes a toll on operations; human error can affect other IT assets, as well. Fortunately, human error can be prevented and mitigated.

Key Points

- Human error, through the lack of both processes and training, creates 70% of downtime events in data centers.
- Failure to consider the effects of one's actions, such as not communicating with others outside one's silo, can create catastrophic IT and business failures.
- Developing systematic processes, including regular communication between IT and other business departments, can help prevent many human errors that affect IT assets.

Downtime In The Data Center

Even a few minutes of data center downtime can be catastrophic for an enterprise, so it's important to identify weak points in data center operations. "Most outages are due to no clear process for changing the configuration of a piece of equipment," says Julian Kudritzki, vice president of the Uptime Institute (www.uptimeinstitute.org). "This includes maintenance."

The second most common cause of data center downtime is lack of training, not just for IT personnel, but for other employees and any vendors who will enter the facility. In fact, 60% of downtime events submitted to the Uptime Institute's 2010 Abnormal Incident Reports were due to a lack of training.

Kudritzki cites a couple of Uptime Institute Abnormal Incident Reports that illustrate both of these sources of human errors. The first is the "smoking crater" event mentioned previously. In that incident, a backup power switch failed, and a technician tried to force it. "The switch failed catastrophically," Kudritzki says. "It blew up." Not only was the technician not properly trained, but either there was no procedure for dealing with the stuck switch or it was ignored.

In the second incident, a janitorial service that cleaned a building, including a data center with a raised floor, hadn't received any training about how to work in the facility, nor, apparently, were any procedures in place for them to follow. "The janitor brought a wet mop onto the data center's raised floor, which not only brings a wet mop into an electrically live data center environment," Kudritzki says, "but the tip of the mop handle also hit the fire suppression system head, causing a water dump all over the data center."

One crucial step is to view training as "an ongoing endeavor," Kudritzki says. "You never have a fully trained data center operator. Training must be as constant as the system and environmental changes. It must be consistent for all personnel, so there should be a training manager."

As the janitorial incident illustrated, it's not enough just to train in-house IT personnel. Any vendor or contractor that will have access to the data center must also receive training about how to operate in the facility, or procedures should be instituted that serve the same purpose. When developing training and procedures, think about all the people who have access to the data center, not just the IT professionals. "Training is characteristic of a high-reliability organization," Kudritzki says.

In bad economies, or just for general cost-reduction efforts, training and staff are among the first items to be slashed. "Site operators had no way to address the link between people and operational availability for top management," Kudritzki says. To aid in resolving this issue, the Uptime Institute developed the Data Center Site Infrastructure Tier Standard: Operational Sustainability, which includes standards for three aspects of operational sustainability: management and operations, building characteristics, and site location.

A Failure To Communicate

Clear communication is another key to preventing human error. Take the case of a university that purchased more than $100,000 worth of items that it already had in its stock room—items that it couldn't use because of upgrades. Or the case of an equipment technician that decides that the last week of the financial quarter would be a good time to shut down routers for maintenance. Or an HR department that forgets to notify IT that a contractor with VPN access has finished the job and no longer needs access.

"The most common human error in IT is a lack of communication," says Andy Morris, product marketing director for log monitoring company LogLogic (www.loglogic.com). Lack of communications creates a silo effect that produces errors such as the examples above. They illustrate "how your actions cause unforeseen events because you don't have the whole picture," Morris says. "You want to talk to the strategic guy and the guy in the trenches. They both make assumptions, which lead to mistakes."

IT departments are especially susceptible to the silo effect, Morris says. "The nature of their job is to be firemen, so they don't know how their actions affect anyone else."

You Need A Process

Another way to view this silo problem is as an absence of processes. "You need to make sure everyone communicates about what's done," says Phara MacLachlan, CEO of management and IT consulting firm Animus Solutions (www.animussolutions.com). "You must have processes."

For example, you may be tracking software licenses, "but are you talking to the finance and negotiation and contracting people so you know what you're allowed to do contractually and in terms of maintenance?" MacLachlan says. "Do we have a system for inventorying and discovering all the software we have on our machines? What are the terms and conditions under which we can deploy the software?"

Good processes facilitate good communication, and vice versa. And both of them mitigate human errors in IT.

"For small and medium-sized businesses to be truly effective, they must mirror the best practices of enterprises," Morris says. "IT in the enterprise links up on a regular basis with other departments. The more regular the link-up, the more smoothly things go."

"IT and business must work together, because everything they do touches each other," MacLachlan concludes. P

Top Tip: Create An Asset Repository

According to Julian Kudritzki, vice president of the Uptime Institute (www.uptimeinstitute.org), one of the first steps in preventing human errors is to create a central repository of information about every piece of equipment in the data center. Ideally, all the information would be in the same form and template.

Phara MacLachlan, CEO of management and IT consulting firm Animus Solutions (www.animussolutions.com), recommends establishing, verifying, and validating processes; integrating systems wherever possible to minimize asset duplication; and using the asset repository system to track inventory and enable discovery of network and hardware information about the assets. "If you change one system, update the integration," MacLachlan says. Update the repository, too. This way, the repository becomes a tool for preventing human errors.

STORAGE

FEATURED PRODUCT

SANs, VMs Need New Forms Of Defragmentation

Diskeeper Software Helps Your Enterprise Solve Problems Created By New Technologies

by Marty Sems

• • •

Much has changed in the data center, and yet much remains the same. There's greater reliance on storage network systems, and virtualization is leveraging more performance from fewer systems.

But at the same time, the majority of server and data center storage remains based on hard drives. File fragmentation is still a concern, too. In fact, according to Diskeeper Corp., fragmentation creates even more complications in the age of SANs and VMs.

The Key To Optimum Performance

The key to maintaining optimum system performance is to run defragmentation software that keeps up with technological times, according to two Diskeeper white papers.

In "Maximize The Performance Of Your Windows SAN Infrastructure," David Chernicoff outlines the ways in which networked storage adds a new chapter to the basic local storage file fragmentation story. Although a SAN maintains its own hardware and file system, a stream of disorganized data I/O requests from its constituent servers result in fragmented data on the SAN, not to mention chaotic network traffic.

Left unaddressed, fragmentation can slow down SAN reads and writes. Users trying to launch apps or access files grow frustrated with the slowdown. Moreover, the problem can lead to premature failure of fragmented hard drives, causing downtime and expenditures. Add the potential for IT to add drives and/or network capacity in a misdirected effort to combat the performance drain, and there's some serious money at stake.

Diskeeper recommends running defragmentation software on Windows servers that access the SAN. "Fragmentation is not the result of the SAN's behavior," Chernicoff says. "The problem lies at a higher level in the storage stack."

By making sure each server has its own house in order before it taps the shared storage resource, Chernicoff says, performance won't be lost on disk latency and network congestion, and funding won't be lost on unnecessary fixes and lost business.

Virtualization Wrinkles

Virtualization creates additional wrinkles in the arena of performance maintenance, according to "The Importance of Defragmentation In Virtualized Environments," an Osterman Research white paper penned on behalf of Diskeeper. "Virtual environments require defragmenting even more than physical environments," Diskeeper says.

Operating systems create high levels of disk activity. In a virtualized system, businesses may run two or more OSes concurrently for a number of reasons, such as savings on capital expenditures, energy costs, capacity scaling, and more. Multiple OSes on a single system tax storage drives with a relatively intense amount of input/output activity as compared with a non-virtualized server. The result is quicker fragmentation of the available storage space.

Even worse, according to the white paper, the fragmentation problem feeds upon itself. "Disk I/O in one virtual machine has a cascading effect on disk I/O in other virtual machines," Osterman reports. "The result is a fragmented virtual disk on a fragmented physical disk—or fragmentation within fragmentation."

In addition to defragmentation keeping a system's physical disks running optimally, each virtual machine needs its own defrag utility, the white paper says. The alternative is subpar VM performance and the potential for early hardware failure and costly repairs.

SAN and virtualization are definite steps forward in today's server rooms and data centers. It's important, Diskeeper says, not to let your systems lose ground to the demonstrable ills of file fragmentation. P

Contact: (800) 829-6468 | www.diskeeper.com

Download Diskeeper White Papers:
http://www.diskeeper.com/products/documentation/documentation.aspx

Diskeeper Corporation Products Can Help Avoid Fragmentation

Diskeeper Corporation developed its V-locity 2.0 virtual platform disk optimizer to keep virtual machines and their host systems running efficiently. The software works with ESX and Hyper-V to defragment file systems in the background while coordinating virtual machine resources at the same time, the company says.

Diskeeper Corporation's InvisiTasking technology offers real-time background processing, while IntelliWrite prevents fragmentation before it happens. Both V-locity 2.0 and Diskeeper 2010 come standard with IntelliWrite and InvisiTasking.

Processor Showcase

The *Processor* Showcase provides a quick glimpse of data center products available from some of the industry's leading manufacturers. Each Showcase provides information on the product's most important features, complete with a product photo, to simplify your buying process.

Product manufacturers and resellers:
To list your products, call (800) 247-4880.

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Don't gamble with your fiber and wire protection. Bet on a Spring-Fast® Flush!
DTI's flush-mounting **FM series** provides low-profile, flush-to-edge mounting.

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Device Technologies Inc.
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Don't gamble with your fiber and wire protection. Defend fiber fast with Protect-Fast™!
- Easy "slip-over" wrap design
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PHYSICAL INFRASTRUCTURE

CS-2HD2/HDE Smart Power Monitor

- Easily add input current load and power monitoring to any existing cabinet
- Quickly added to SAN's or other cabinets that do not have any power monitoring capabilities
- Measure aggregate current draw on each power circuit
- IP access and security/Environmental monitoring
- Provides automated SNMP-based alarms or email alerts

Server Technology
Solutions for the Data Center Equipment Cabinet

Server Technology Inc.
(800) 835-1515
www.servertech.com

PHYSICAL INFRASTRUCTURE

CS-3AVY Sentry Smart CDU

Provides reliable 3-Phase power distribution. Multiple outlet types distribute multiple voltages via 3-Phase 208V Wye power in-feed.

- High Density
- Multiple Voltage Outputs
- Input Current Monitor
- IP Access & Security
- SNMP Traps
- Environmental (Temperature & Humidity) Monitoring
- Branch Circuit Protection
- **NEW!** Linking for Smart CDU (Expansion Modules)

Server Technology, Inc.

Server Technology Inc.
(800) 835-1515
www.servertech.com

PHYSICAL INFRASTRUCTURE

CW-24V5 Sentry Switched CDU

Mixed Outlet 3-Phase 415V/240V
- Achieve greater efficiencies by bringing 3-Phase 415V to the cabinet and 240V to the devices
- Single-power input feed; 24 outlets per enclosure
- Delivers up to 21.6kW
- Remote power management
- IP access and security
- SNMP traps and email alerts
- Environmental monitoring
- Ability to add an expansion module

Server Technology
Solutions for the Data Center Equipment Cabinet

Server Technology Inc.
(800) 835-1515
www.servertech.com/products

PHYSICAL INFRASTRUCTURE | PRODUCT SPOTLIGHT

Overhead Cable Management

Product

Black Box BasketPAC Cable Tray Sections & Individual Sections

Description

Black Box BasketPAC Cable Tray Sections are constructed of welded steel wire and ship with hardware that makes installation fast and easy.

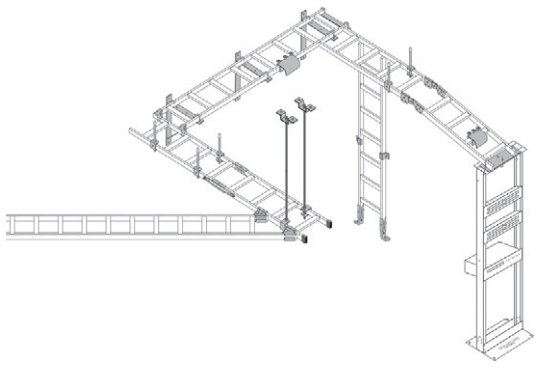
- Four-pack cable trays come in 78-inch lengths (RM710A)
- Individual cable tray sections are available in 10-foot lengths (RM780)
- All trays are available in 2-, 4-, 6-, 8-, and 12-inch widths
- Joining method options include bolt-free splices and fast splices

Best For: Companies of all sizes that need easy-to-install overhead cable tray systems.

Price: Start at $199.95 (RM710A) and $68.95 (RM780)

Contact: (724) 746-5500 | www.blackbox.com

Black Box Ladder Rack (6’ x 12”)



Black Box’s cable management products carry a lifetime guarantee, and 99.96% of the company’s in-stock products ship the same day. Black Box’s 6’ x 12” Ladder Rack is available in gray (RM663) and black (RM650) options.

- 16-gauge tubular steel cable and mig-welded rack for routing cable along ceilings and walls and in closets
- Create custom cable-management solutions with 6- and 10-foot racks and a wide array of connecting and support hardware
- Side rails feature 0.375- x 1.5-inch tubing; strings are constructed of 0.5- x 1-inch tubing

Best For: Companies of all sizes in need of easy-to-install systems that can be routed along ceilings and up walls.

Price: Starts at $52.95

Contact: (724) 746-5500 | www.blackbox.com

CableOrganizer.com CM10 & CM20 Series Cable Trays

Designed for worry-free code compliance, the CM10 and CM20 Series wire-basket cable trays are easy to customize without structure-altering modifications. Prefabricated CM10 and CM20 reducers, turns, waterfalls, and junctions drop into place with no cutting, bending, or excessive hardware needed.

- Patent-pending design creates a continuous ground conductor without additional grounding splices or hardware
- Available in standard 2-, 4-, 6-, 8- and 12-inch widths
- Preformed drop-in turns, waterfalls, reducers, and junctions allow for customization without sacrificing code compliance
- UL certified and made of powder-coated zinc
- Installation hardware included

Best For: Creating customized cable tray runs without having to make noncompliant structural modifications.

Price: Starts at $6.93

Product

NetCablesPlus Tyton Raceways

Description

Each Tyton Raceway from NetCablesPlus includes a large enough base to provide an excellent adhesive surface. An aesthetic, low-profile design blends into any environment, and numerous complementary fittings and accessories help adjust the run as needed.

- EIA/TIA-compliant
- Complies with industry-standard CAT 5 requirements for bend radius
- Constructed of 94V-0 PVC
- Multiple fittings available

Best For: Data centers looking to hide a variety of cabling attractively.

Price: $11.99 (6 feet x 0.75 inch)

Rackmount Solutions 2U Cable Routing Blank

Cable Routing Blanks make it easy to run virtually any cable or cord from the front of one component to the rear of another. Install a Cable Routing Blank adjacent to a component and pass the cables to the back of the rack or cabinet. This simple cable management bracket will eliminate the problems that arise from tangled and crimped network cables.

- High-capacity 2U design
- Large cut-outs handle any size cable
- Black powder coat finish
- Rounded corners
- Made in the United States
- Limited lifetime warranty

Best For: Any facility with server racks and cabinets

Price: $19

Contact: (866) 207-6631 | www.rackmountsolutions.net

Rackmount Solutions Universal Wire Minder

Universal Wire Minders are the perfect add-on to any racking system. An adaptive design allows them to be mounted in eight different positions. Universal Wire Minders have a generous 1.5 x 3-inch opening that allows even the largest cables to be managed with ease. Whether being added to an existing rack or being installed in a new rack, the Universal Wire Minder is the most functional cable manager available. Easily install the Universal Wire Minder in any 2- or 4-post rack, wall-mount rack, or cabinet.

- Easily mounts in eight different positions
- Most versatile cable manager available
- Made in the United States
- Limited lifetime warranty

Best For: Any facility with server racks and cabinets.

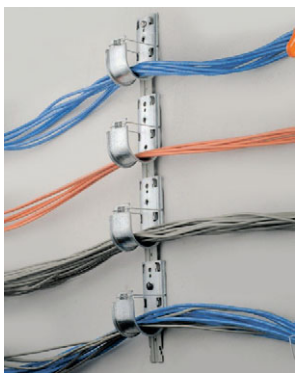
Price: $9.95

Contact: (866) 207-6631 | www.rackmountsolutions.net

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Blaine Flamig

CableOrganizer.com ERICO Caddy J-Hook CAT Link System



The ERICO Caddy J-Hook CAT Link System aerial cable hangers are designed for use with CAT 6a, CAT 7, and large-diameter fiber optic and coaxial cables and feature beveled, low-friction edges for easy cable pulls. The hangers can maintain large-bend radii, thus preventing cable damage and attenuation. They also support threaded rod, wall, beam, and bracket mounting options.

- No grounding, screws, rivets, or special tools required, saving time and money
- Bendable locking tabs secure cables into hooks and provide extra rigidity and structural support
- Enables easy expansion, as additional J-Hooks can be attached to existing ones
- Environmentally friendly construction consisting of 80% recycled steel

Best For: High-performance cable upgrades where adding to an existing cable support system is preferable to replacing it.

Price: Starts at $2

CableTiesAndMore Wiring Ducts

Designed for use within cabinets and control panels, CableTiesAndMore's Wiring Ducts use a unique wire and cable management system that makes them suitable for office applications.

- Available in numerous sizes
- Manufactured of standard PVC or Noryl material
- Available in gray, white, or black
- Open Slot, Narrow Slot, Closed Slot, and Solid Wall options available
- Economical open-slot wiring ducts available for those on budget

Best For: Cabinets, control panels, and office use.

Price: Starts at $32.18

NetCablesPlus Screw-Mountable Hook & Loop Cable Ties 10-Pack

NetCablesPlus' Screw-Mountable Hook & Loop Cable Ties make organizing overhead cabling easy. The nylon-based ties are simple to use and are reusable thanks to their self-attaching design.

- Available in 8-inch and 12-inch sizes
- Made of high-strength nylon hook and loop to securely organize cables
- Screw into plywood, wood framing, relay racks, and drywall
- Lifetime warranty

Best For: Overhead cabling organization needs in data centers of any size.

Price: $7.99 (10 8-inch ties); $9.99 (10 12-inch ties)

Rackmount Solutions Velcro Cable Wraps

Velcro Cable Wraps from Rackmount Solutions come in three styles. All are 3/4 x 9 inches, black, and come in a pack of 10.

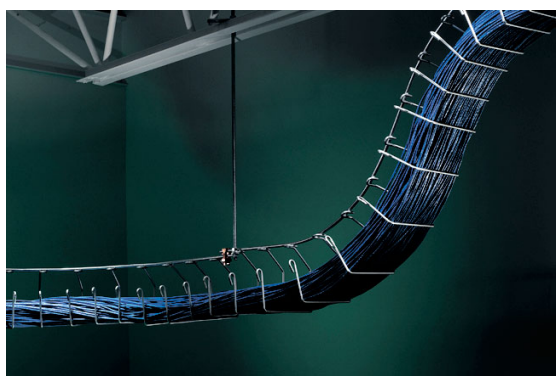
- CTV-Plain: 3/4-inch wide reusable velcro cable wraps
- CTV-Grommet: Reusable velcro cable wraps with grommet; perfect for attaching to rackmount or side rails
- CTV-Buckle: Reusable velcro cable wraps with grommet and buckle. Perfect for attaching to rackmount rail or side rails. Provides extra strength and tension.

Best For: Any facility with server racks and cabinets.

Price: $7.50 (CTV-Plain); $9.95 (CTV-Grommet); $12.97 (CTV-Buckle)

Contact: (866) 207-6631 | www.rackmountsolutions.net

Snake Tray 201 Series Tray



Snake Tray 201 Series Trays are hand-bendable cable trays designed for overhead use. Snake Tray 201 Series trays require no fabrication and come with built-in mounting hardware. Trays connect with one split bolt or inline connector and nest together for economical shipping and material handling.

- Available in various sizes
- Quick to install
- Patented hand-bendable design
- Built-in mounting rings
- Stack together to save on shipping

Best For: Government, retail, education, financial, industrial, marine, and other industries.

Contact: (800) 308-6788 | www.snaketray.com

Snake Tray Mega Snake Cable Management Solutions

The Mega Snake is a high-capacity overhead cable tray that comes in premanufactured sections with a built-in mounting system to expedite installation. Accessories for Mega Snake include a series of power modules to deliver power overhead quickly and efficiently.

- Premanufactured components
- Patented accessory rail for hanging additional cable trays, patch panels, or power modules
- Trays stack together to save on shipping
- Built-in suspension system included that eliminates mounting hardware

Best For: Companies with high-capacity cable management needs.

Contact: (800) 308-6788 | www.snaketray.com

PHYSICAL INFRASTRUCTURE PRODUCT SPOTLIGHT

KVMs

AdderView CATxIP 5000

Description

The AdderView CATxIP 5000 is the culmination of Adder's KVM over IP expertise to date. This new device offers four non-blocking simultaneous IP connections together with a local port (five separate users) and allows the user to control 16 separate devices. The AdderView CATxIP 5000 is small and compact, enabling you to fit two units side by side to support 32 computers and 10 sessions in just 1U of rack space.

- Four simultaneous users connect via IP to any of the 16 connected devices
- Direct connection for one local user to connect straight to the switch
- LDAP integration
- Integrated RS-232 control for controlling external devices
- ADDER.net management software automates the task of managing network control hardware

Best For: IT administrators who need to control a large group of computers over IP from a single KVM switch.

Price: $1,750

Contact: (888) 932-3337 | www.adder.com

AdderView PRO MultiScreen

The AdderView PRO MultiScreen is a professional-grade KVMA switch that delivers ultimate flexibility for users who want to share high-resolution screens and modern USB peripherals between multiple computers. The AdderView PRO MultiScreen enables up to four multihead computers to be controlled from a single high-resolution KVM console using either dual-link DVI or high-definition analog video links.

- Features Adder's True Emulation technology, which ensures that the full characteristics of the connected USB keyboard and mouse are passed to every system
- Dual-link DVI-I with extended profile DDC EDID
- Includes two independently switchable USB 2.0 channels and an audio channel
- Supports resolution of 2,560 x 1,600
- Broad USB 2.0 Hi Speed device support
- Available in dual-, triple-, and quad-head versions

Best For: IT administrators, post production, graphic designers, detailed medical imaging, and broadcast studio professionals.

Price: $1,795

Contact: (888) 932-3337 | www.adder.com

Black Box ServSwitch Agility

The ServSwitch Agility from Black Box can function as a KVM switch, a sharing portal, or a DVI extender, depending on how it's configured. Admins can set it up as a point-to-point KVM extender for KVM switching, single-target sharing, or multicasting. Black Box's iPATH system lets IT administrators configure devices, users, and channels and features an on-screen dashboard that provides an overview of the entire system.

- Flexible topology for KVM extension
- Delivers digital video with no loss, minimizing bandwidth use while maximizing the user experience
- Features keyboard/mouse emulation and emulation for other standard human interface devices, such as touchscreens or flash drives
- Distance is limited only by your network capabilities when you use network switches
- Mounting options include rack mounting, desktop, and wall mounting

Best For: Health IT, command and control room setups, media post-production, and digital signage environments.

Price: $2,045.95

Contact: (724) 746-5500 | www.blackbox.com

CyberView Matrix Multi-User CAT 5 KVM (U-3201)

sold by Rackmount Solutions

Description

The CyberView U-3201 is a 32-port KVM switch that provides high-density ports that can run up to 130 feet between your server and KVM switch. It also offers enhanced cable management and support for multi-platform capabilities.

- Enhanced rear cable management using CAT 5 cords
- Mix PS/2, USB, and SUN interfaces with multiplatform switch capability
- Secure remote user access across the Web

Best For: Server rooms or small data centers that need a KVM that can handle a large number of servers and can be operated outside of the server room.

Price: $1,257

Contact: (866) 207-6631 | www.rackmountsolutions.net

CyberView Matrix Multi-User IP DB-15 KVM (IP-802)

sold by Rackmount Solutions

Designed for small to medium-sized server rooms, the CyberView IP-802 delivers efficient system management with simultaneous multiuser access. The Matrix IP DB-15 KVM is capable of connecting to eight servers per device in 1U, and it's designed to support Sun, IBM, HP, Dell, Solaris, Mac, Windows, and Linux products.

- Control eight servers in 1U of rack space
- Local console supports up to 1,920 x 1,440 resolution
- Hot pluggable; no software or drivers required
- Supported OSes include Windows 2000/XP/2003/Vista, Linux, Netware, Unix, and DOS

Best For: Small server rooms with one or two server cabinets/racks.

Price: $415

Contact: (866) 207-6631 | www.rackmountsolutions.net

Minicom Power On Cable

PoC (Power on Cable) is an SPPC (single-port power control) device that enables remote power control (power on/off/reboot) of any connected device. PoC is targeted at any IT environment that needs 24/7 remote power management, including mission-critical computers, servers, or network and monitoring devices.

- Control integrated with Minicom KVM/IP sessions
- Modular design for expandability
- Current consumption up to 10A per port
- Flexible power redundancy
- Unique design and 0U footprint
- Easy third-party integration with open standard protocol
- No physical connection between management and power device
- Three-year warranty

Best For: Any IT environment that needs 24/7 remote power management.

Price: $169.99

Contact: (888) 486-2154 | www.minicom.com

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Nathan Lake

Black Box ServSwitch DKM

The ServSwitch DKM from Black Box offers four switching modes: matrix, single-head (16 users to 32 CPUs), dual-head (eight users to 16 CPUs), and quad-head (four users to eight CPUs). There's also a Share Mode that enables more than one user to share access to the CPU, which is ideal for an IT administrator who's working with another employee to troubleshoot a system or apply updates.

- Supports high-resolution DVI-D and USB-style keyboard/mouse, plus USB peripheral and audio options
- Maximum resolution of 1,920 x 1,200 at 60Hz
- Uses CATx cabling or single- or multimode fiber and extends signals up to 10 kilometers (6.2 miles)
- Connects via ServSwitch DVI CATx KVM Extenders (ACS4001A-R2), ServSwitch DVI Fiber Optic Extenders (ACS4001A-R2-MM, or -SM), or other CATx and fiber extenders
- Available in 19-inch housings for high-density applications

Best For: Enterprises that need a scalable KVM that supports DVI-D, USB HID, stereo audio, and RS-232 signals.

Contact: (724) 746-5500 | www.blackbox.com

Black Box ServSwitch Freedom

The Black Box ServSwitch Freedom is a four-port switch that works as if there is an extended desktop on a single computer, except that the user is accessing the desktop of four different PCs. Once the screen layout is configured, the user moves the mouse cursor over the X and Y borders to switch PC access. The ServSwitch Freedom supports a mix of USB peripherals, and it works on Windows, Linux, Mac, Sun, and NetWare systems.

- Makes for speedy switching between monitors from a tradeshow floor
- A flexible, 4-port, professional-grade switch for simplifying USB keyboard/mouse access to multiple computers
- Enables a single user to switch between four monitors and attached CPUs and share USB peripherals between them
- Features two independent USB 2.0 channels
- Supports "quick-fire" switching via hotkeys, a mouse, or front-panel buttons
- Features stereo audio

Best For: Command and control centers.

Price: $495

Contact: (724) 746-5500 | www.blackbox.com

CyberView Matrix High-Density CAT 5 KVM (UIP-3202)

sold by Rackmount Solutions

The CyberView UIP-3202 offers advanced user profiles and configurable hotkey combinations from the multilingual on-screen display menu. You can use either a PS/2 or USB dongle at the server end of the installation, which makes for a cost-effective way to match the exact server configurations. The multiplatform switch allows older or redundant servers to be migrated to servers with newer USB interfaces without replacing switch hardware.

- Uses RJ-45 CAT 5 interface for a higher number of ports in smaller density
- Traditional CAT 5 cords provide simple cable management when compared to coaxial cables
- Mix legacy PS/2 servers with newer USB and SUN solutions
- Dual power with failover
- 12V, 24V, and 48V DC power options
- Connect up to 256 servers by eight-level cascade

Best For: Medium-sized to large data centers and colocation facilities.

Price: $1,699

Contact: (866) 207-6631 | www.rackmountsolutions.net

Minicom PS/2 To USB Converter

Extend the life of your legacy PS/2 equipment with the Minicom PS/2 to USB Converter. The converter lets you use your PS/2 devices (KVM switches, KVM extenders, and servers) with a USB keyboard and mouse. Unlike other converters, the Minicom PS/2 to USB Converter allows for many keyboard and mouse combinations.

- Compatible with PS/2 servers, KVM switches, and KVM extenders
- Pure hardware solution; no software/network conflicts
- No need for external power
- Compact size
- Plug-and-play
- Three-year warranty

Best For: Budget-conscious enterprises with legacy equipment.

Price: $99.99

Contact: (888) 486-2154 | www.minicom.com

Trendnet TK-1603R

The TK-1603R from Trendnet is a 16-port KVM switch that supports both USB and PS/2 interfaces on the console side (USB only on PC side) and is designed to handle PC, Linux, Mac, and other systems, so it'll support both current and legacy hardware. Users can switch between computers using hotkeys or push buttons. The TK-1603R also can handle video resolutions up to 2,048 x 1,536, which is ideal for enterprises that are dealing with high-quality video or images.

- Supports Windows 98SE/Me/2000/XP/2003 Server, Linux, Mac OS, and more
- Firmware upgradeable via PC port
- Auto-Scan for monitored PCs with adjustable scan interval from 10 to 99 seconds
- Keyboard status restored when switching between PCs
- LED display for easy status monitoring
- Plug-and-play and hot-pluggable
- 19-inch 1U rackmount design

Best For: Enterprises that need an affordable, rackmount KVM that can support a large number of servers.

Price: $229.99

Trendnet TK-IP101

The TK-IP101 from Trendnet supports four concurrent user logins and provides secure, remote access from both Windows- and Java-based clients. The console allows control from the BIOS level up to OS-based applications, so admins won't need to physically be in the server room to troubleshoot, reboot, and edit preboot functions. For security, Trendnet integrates full 1,024-bit PKI authentication and 256-bit SSL encryption.

- Manage KVM switches and servers remotely over the Internet, saving time and resources
- Centralize management of multiple servers when connected to a conventional KVM switch
- Multiple user access control
- Crisp 1,600 x 1,200 resolution
- Intuitive Web user interface permits upgrades and backups
- Supports user-friendly Telnet sessions and FTP access
- Works with LDAP, RADIUS, and Active Directory servers

Best For: Small to medium-sized companies that need to manage servers remotely.

Price: $499

FEATURED PRODUCT

Clearing Up Complexity

Ensim's Unify Enterprise Edition Helps SMEs Simplify Management Of Diverse Applications

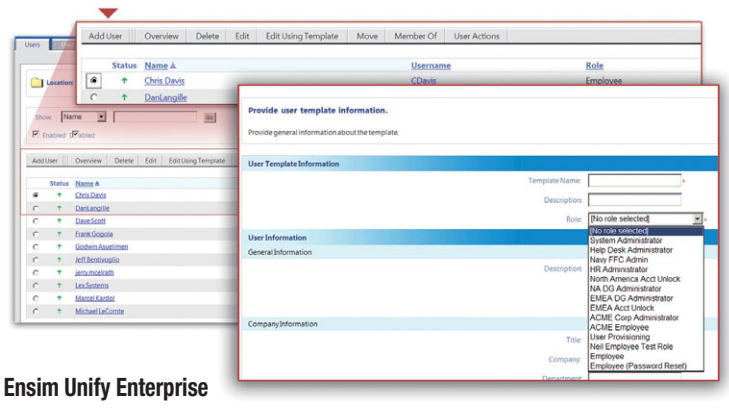
by Phil Britt

• • •

As small and midsized enterprises grow, they add workers onsite, provide increased mobility options to employees, and may allow third-party business partners and contractors to access certain areas on the network. This growth carries with it an increase in business complexity and enterprise risk, because each worker will have his own email box, computer, laptop, and other enterprise network access devices, each with its own storage capabilities.

If expected to save their own documents and other files, manage and reset emails, and handle other such corporate IT-related tasks, employees may follow company rules correctly or partially, or they may ignore them completely.

As the company expands, it's also likely to add different capabilities for workers, including Exchange, SharePoint, Office Communications Server, and other applications, each with its own interface. Provisioning these different applications also becomes more cumbersome as the firm grows.



Ensim Unify Enterprise Edition makes it easier to manage user provisioning for a variety of applications from one interface.

According to Meta Research Group, IT administrators spend at least 40% of their time on basic configuration tasks such as provisioning and deprovisioning employees, resetting passwords, and managing distribution lists. These issues are further complicated in organizations with multiple IT administrators. Just as with different employees, each IT administrator might have his or her own way of handling provisioning, naming conventions, security issues, and the like.

Such issues have led to the development of expensive management suites designed for large corporations to centralize the administration of the above IT protocols. But those enterprise edition solutions are often too costly and time-consuming to install and learn for most medium-sized and small businesses with much smaller IT staffs, according to Scott Young, vice president of marketing and sales for Ensim (www.ensim.com).

Relief Through The Cloud

This conundrum led to Ensim's development of its user provisioning and access control software, Ensim Unify Enterprise Edition. The technology behind the service provider product was originally co-developed with Microsoft to manage multitenant environments for service providers (telcos) and hosts.

Organizations need the ability to efficiently and securely use IT resources, whether those resources are on-premises or in the cloud. "As companies add different interfaces, there's more chance of different silos across the organization," Young explains. "Information walls within regulated organizations, which are designed to prevent employees with a potential conflict of interest from communicating, are a great example of how our policy engine can work to enforce compliance directives. Being able to do this automatically, without custom programming, can save organizations months of development and millions of dollars."

For example, an employee may have her own preferred naming conventions for different files that are different from another employee's or from the company's preferred method. That means files could be saved where only the employee knows the location, a problem if she leaves the company.

"As companies grow, it becomes harder to administer corporate policies across the organization, like naming conventions, how large an email box can be, managing distribution lists, [etc.]," Young says.

"Another issue is compliance," Young continues. With the increased emphasis on transparency, companies have to ensure that security and privacy policies are followed. Having such control and an audit trail of password and other security changes also helps a company identify any sources of breaches or potential breaches. "They have to have a way to enforce the policies," he continues. "They have to have a way to demonstrate that they know what [files] each person has access to."

Young adds, "Large companies spend millions of dollars on these solutions. We're providing these capabilities to customers at a reasonable price."

Cloud Convenience

Providing the solution via the cloud means that Ensim customers don't need to go through costly and expensive schema modifications every time they add an enterprise-wide collaboration application, such as SharePoint. Permissions and many other details are all handled through checkboxes in the application itself.

Unify Enterprise Edition is compatible with the existing Microsoft infrastructure and provides a centralized framework for provisioning such applications through the cloud.

Ensim Unify Enterprise Edition

(408) 496-3700
www.ensim.com

Description: Provides IT process automation for provisioning, virtual lifecycle management, and change management of mission-critical collaboration and business applications.

Interesting Fact: Ensim Unify has been co-developed and co-marketed with Microsoft since 2003 and administers more than 1 million users today.

The product includes modules for management of Active Directory, Exchange, Google Apps, passwords, Office Communication Server, and SharePoint.

The group manager module provides the capability for full lifecycle management of all Active Directory groups, including both security groups and distribution lists. The audit manager enables authorized users to discover, analyze, and report any change made to the Active Directory.

Looking Ahead

Sales of Unify Enterprise Edition doubled between 2008 and 2009, and Young expects further strong growth by the end of this year and into the future as more SMEs look for ways to more cost-effectively and efficiently provision applications and rights while ensuring security and centralized management of administrative tasks. P

Latest Developments

The latest version (2.8) of Ensim Unify Enterprise Edition includes several new features:

- A security and policy enforcement engine to enforce delegation of administrative rights and the delegation model into native management interfaces.
- User management update features that enable IT administrators to submit extensible search criteria to the system to retrieve user data based on a role, provisioned template, or any other Active Directory attribute.
- Windows 7 compatibility for password reset, enabling IT administrators to push a password-reset tool to all Win7 desktops, which allows users to reset their passwords from their own workstations without any administrator intervention. Additionally, password reset operations can be configured to unlock the account, and several other password policy enhancements have been added, enabling administrators to securely enforce password reset policies.

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Remote Access Tools

Keep Tabs On Your Data Center While You're Away

by Rod Scher

• • •

You regularly leave your data center, but that doesn't mean you can stop managing your data center. Sure, you attend conferences and meetings, travel for pleasure, visit other worksites, and go home at night and on the weekends (sometimes), but none of that means that IT staff and management can abdicate their primary responsibilities: Somehow, someone must ensure that the center is secure, that information is flowing, and that all business processes are functioning as designed, 24/7/365.

Among the tools in your tool chest that help you accomplish that are a bevy of remote access applications that you can use to keep tabs on your systems even when you're not there to lay your hands on them.

The Highest & Best Use

So, what is remote access used for, really? And how does one get the most out of it?

"These tools are used extensively by IT for remote management," says Zoho's (www.zoho.com) technology evangelist, Raju Vegesna. "This includes remote data center management: configuring remote systems, etc. in multi-data center mode, for example. Remote control is also used for meetings and Web conferencing, to share Desktops (and occasionally to give control of the Desktop to attendees), and to share files among attendees."

Ubiquitous connections—sometimes 24/7 connections—with staff and processes are the norm these days with the proliferation of mobile devices, but true remote access to servers and workstations is different than simply being able to zap an email to a tech. "Enterprise-class remote access affords users access not only to remote data but also to remote applications, remote printing, and a host of other key features," notes Robert Haines, business development manager for Pro Softnet (www.pro-softnet.com). It's the difference between being in touch and being in control.

Of course, that's not to say that mobile devices can't be one component of the remote access solution; mobile apps are in fact becoming part of the IT toolkit. With a tool such as this, you can use a mobile device to work on a server or workstation—even including sharing or manipulating Desktops—while sitting in a meeting a thousand miles away.

Risk vs. Reward

Of course, certain risks come with any useful technology. Remote access, almost by definition, opens holes in your network, leading to potential security issues. As long as the organization is cognizant of the potential risks, these can be managed.

"There are three levels at which these systems have to be secured," Vegesna says. "First, at the system being accessed: When a remote agent is installed, you need to make sure there are no vulnerabilities and openings that this may cause, such as opening up any ports unnecessarily. Second, at the transport level: We need to make sure the data is transferred securely (via HTTPS, etc.). Finally, we have to control access permissions, ensuring that the data/system can be accessed by—and only by—users with the appropriate permissions."

Remote access tools could also introduce issues that have little to do with security, per se. Some of that may depend on how well these applications are designed. According to Vegesna, "Typically, these apps run agents on the remote computer. Those agents have to be optimized and designed well." If they're not, then those agents could end up consuming system resources, potentially increasing boot time or causing other problems.

Remote Monitoring

Remote monitoring utilities are a useful and specialized subset of remote access tools. These can include remote "sensors" (normally software-based rather than requiring hardware add-ons) that can be used to monitor (and thereby optimize) network bandwidth usage. A remote monitoring package can record network usage parameters and store recorded data in a database to be used for historic reports.

Most such tools provide a fairly straightforward Web-based user interface or dashboard that you can use to monitor the health of your network from the data center, the CEO's office, or your den at home. If server temperatures begin to rise or outages occur—or if other usage thresholds are exceeded—the software can alert you via email, text messages, or other such mechanisms, even if you don't happen to be remoting in to the server at the time.

Evaluating Remote Access Systems

Remote access tools range from simple and affordable—such as those included with many operating systems—to sophisticated and expensive. Some products are vendor-hosted, while others reside on your servers. All are viable options, depending on what you're looking for and what level of access you require.

How do you know which one's right for you? "Price obviously plays a crucial role," says Zoho's Vegesna, as does scalability. If you grow dramatically, will your remote access solution grow with you? "The most important thing to consider," Vegesna notes, "is how the software meets your specific needs."

Perhaps the best way to know which remote access tool best meets your needs is simply to try some out. Even the largest and most sophisticated remote access suites provide inexpensive (or free) trial accounts. Some firms suggest using such an account to run a small pilot, accessing a small subset of servers—or even just one server—for 30, 60, or 90 days to collect usage data and to determine how much more efficiently data center equipment could be maintained and updated if access to it were in fact independent of location. P

Key Points

- Don't confuse mere contact with actual control; true remote access tools allow managers to monitor and manage remote systems.
- Security issues may arise when utilizing remote access, but these can be anticipated and managed.
- Most vendors (and IT staff experienced with remote access suites) recommend inexpensive pilot studies to determine the viability of remote access tools.

Remote Access Security Considerations

Almost by definition, allowing remote access opens up potential security holes. But in this age of anytime, anywhere access and ubiquitous connectivity, staff members need to be able to get to data housed on your network. As a result, IT security personnel are charged with allowing that access while mitigating the attendant risks. Some things to keep in mind:

- Determine (and enforce) appropriate access levels. Not everyone needs the same level: Some can be granted read-only access to all data; others need (and should be allowed) access only to specific processes or data subsets. This complicates setting up and tracking user profiles, of course, but it will save trouble in the long run.
- Consider adding additional security layers. In addition to encrypted VPN and authenticated sign-on, a smart card or biometric log-in may make sense.
- Be sure to shut down remote access sessions after an extended idle period. (Non-IT staff will complain about this because many will want to remain connected for indeterminate periods of time regardless of activity. Nonetheless, it's necessary.)
- Use encrypted, private access. This should go without saying, but some organizations are still not using even network-level VPNs (let alone SSL VPNs) or similar tools.
- Keep in mind that the VPN client may be running on machines that do not meet your corporate security prerequisites—unless you have a corporate protocol specifying that all systems with remote access must meet those requirements. Such "unmanaged" systems are less resistant to viruses, worms, bots, etc., opening up the network to greater risk.

Device Technologies Fast-Drop Radius Control Modules

NEW PRODUCT

Better Routing For Fiber-Optic Cables

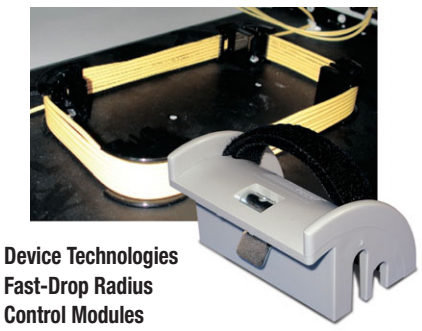
What happens if there's a kink in a fiber-optic network cable? What happens if the fiber coming through a wall conduit snags and bends before it reaches your computer, server, or network interface? Slower download speeds? Lost data? Or worse, complete network failure?

Fiber cables can dramatically increase the amount of data that can be transmitted and increase the speed at which it travels, but are not without their own pitfalls, mainly because of a simple problem: bends in the fiber-optic cable.

Device Technologies Fast-Drop™ RCM (Radius Control Modules) is a family of simple-to-use products to prevent fiber-optic networking cables from developing micro-bends.

Fast-Drop has been designed with a "perfect bend," a precise 90-degree curve of a radius sufficient to provide the correct minimum bend for fiber-optic cables, ensuring consistent data transmission. Without Fast-Drop, cables can bend too sharply, inducing internal reflection and potentially snapping fibers, both detrimental to data flow.

The Fast-Drop cable management system protects and organizes fiber-optic cables to ensure maximum data transmission output. Optional hook-and-loop straps secure cables in place. Fast-Drop can be mounted three ways (tabs, screws, or clips), both horizontally and vertically. To create a 180-degree return service loop, two modules can be mounted facing each other. Two such returns can be configured into service loop applications to organize and protect extra lengths of cable.



Device Technologies Fast-Drop Radius Control Modules

A family of simple-to-use products to prevent fiber-optic networking cables from developing micro-bends.

Radius Control Modules are available from stock in three widths: 1-inch (2.5cm), 1.75-inch (4.4cm), and 3-inch (7.6cm), in black or beige. A slotted side design accommodates stacking for multiple or various lengths. The universal RCM snaps onto any sheet metal edge up to 0.104 inches, retained by an RoHS-compliant zinc-plated carbon steel clip. Device Technologies has a target release date for a new-sized RCM in the first half of next year; be sure to share any potential interest in this product with DTI.

DT device technologies, inc.

(800) 669-9682
www.devicetech.com

FEATURE PACKAGE

Improving Network & Systems Management
A well-built network starts with a solid understanding of what hardware and applications you have and how they're being used. We offer information designed to help you improve your enterprise network, storage, applications, and more.

Playing Network Detective | 22
■ The average enterprise network is a complex highway of systems, applications, and other assets that demands efficient navigation to effectively satisfy business goals and customer demands.

Understanding App Usage | 24
■ Although some companies allow employees to use all available applications, there are distinct advantages to having more in-depth knowledge about who's using which program and to limiting usage based on productivity and appropriate use.

Lay Down The Storage Usage Law | 26
■ Employees often pay little attention to documents, large email attachments, and other large files that clutter up their hard drives and your servers. Luckily, there are a number of techniques that can keep storage on work computers under control.

Managing From Afar | 26
■ Updated monitoring tools can help IT maximize performance and minimize downtime, but the organization risks flying blind if it fails to invest in proper processes, as well.

Playing Network Detective

Knowing What Resides On Your Network Is Critical To Almost Every Aspect Of Your Business

by Christian Perry

• • •

WITHOUT THE RIGHT NETWORK tools and know-how, you'll have a better chance of discovering what's inside Area 51 than what resides on your network. After all, the average enterprise network is a complex highway of systems, applications, and other assets that demands efficient navigation to effectively satisfy business goals and customer demands.

"You can't manage what you can't see. It's as simple as that," explains Walker White, CTO of BDNA (www.bdna.com). "Beyond that, the use cases that require 20/20 network device visibility continue to expand. Software license management, resource consolidation, virtualization, migrations and upgrades, green computing initiatives, compliance, utilization, business continuity, [and] ROI analysis all require visibility as a precondition for effective, informed decision-making."

Key Points

- Understanding your network's contents can improve trending, forecasting, capacity planning, and even staffing around network management.
- If the need for network discovery exists, an initial manual inventory process will be required, particularly for smaller organizations.
- Manual deployment procedures can hamper efforts to keep IT personnel up-to-date with information on what resides on the network.

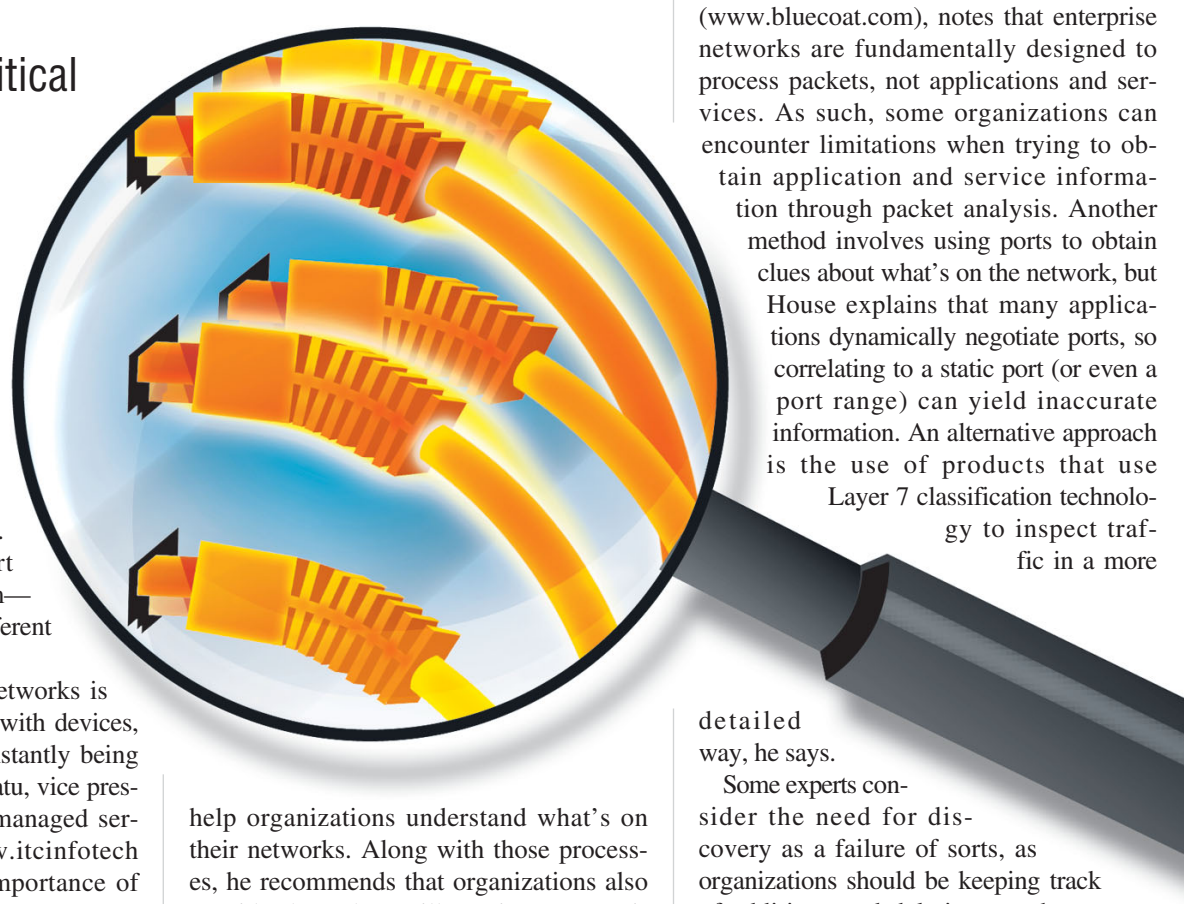
The Need To Know

Day-to-day network management ultimately boils down to the movement of data, not the discovery of assets on that network. In turn, network administrators can lose sight of what resides on the network over time, which can decrease productivity if applications or services aren't being used to their potential—if at all. Making matters worse, it can be tough to adopt a discovery-driven mindset in the face of regular (and often heavy) network activity.

"The processes people use for deploying their infrastructures are generally procedural and often manually driven, which means that these processes don't automatically update asset databases or anything equivalent, and, as a result, all of these updates require additional manual effort," says Luke Kanies, founder and CEO of Puppet Labs (www.puppetlabs.com). "Since this additional effort only pays off in the long term—and even then, usually for different groups—it is usually skipped."

Another inherent trait of networks is their perpetually fluid nature, with devices, applications, and systems constantly being added and removed. Prasad Natu, vice president and delivery head for managed services at ITC Infotech (www.itcinfotech.com), says this raises the importance of regularly tracking changes and automatically adjusting your monitoring scope and coverage as the network evolves.

"This knowledge helps monitor effective usage of the devices on the network, plays an important role in trending and forecasting and capacity planning, and also identifies the right human resources for managing the enterprise network," Natu says. "Knowing what resides on the network also helps a company to better understand what information is critical and how to protect it, [and] it aids in planning and implementing better security systems and in refreshing hardware and applications."



Discovery Duty

According to Scott Archibald, managing director at Bender Consulting, both automated software and manual processes can help organizations understand what's on their networks. Along with those processes, he recommends that organizations also consider how they will continue to monitor what is placed on their networks after the initial survey, as well as what needs to be removed from the network.

"Not all organizations are large enough to warrant an investment in software to help perform this function, and for those I would recommend getting their hands around the procurement approval process," Archibald says. "For those smaller organizations, the reality is that a manual inventory process will be required. Most organizations will find about 30% of the applications inventoried are no longer in use and can be removed."

When it comes to asset discovery, platform independence is a critical asset, White says, as network administrators should be able to see anything with an IP address, regardless of its hardware or software architecture. By using tools that can facilitate this type of discovery, you'll see proprietary and embedded devices such as networking gear, intelligent peripherals, and similar devices. White also recommends using discovery tools that can operate comfortably in globally distributed networks, particularly those with mobile devices that can access the network at any time.

Steve House, senior director of product marketing and management at Blue Coat (www.bluecoat.com), notes that enterprise networks are fundamentally designed to process packets, not applications and services. As such, some organizations can encounter limitations when trying to obtain application and service information through packet analysis. Another method involves using ports to obtain clues about what's on the network, but House explains that many applications dynamically negotiate ports, so correlating to a static port (or even a port range) can yield inaccurate information. An alternative approach is the use of products that use Layer 7 classification technology to inspect traffic in a more detailed way, he says.

Some experts consider the need for discovery as a failure of sorts, as organizations should be keeping track of additions and deletions as they occur. One way to facilitate this method is through the use of an inventory database that's maintained in real time by the actual tools doing the deployment, Puppet Labs' Kanies explains. If this technology is in place, there's usually no need for discovery.

"The best tools—and, to a lesser extent, processes—for asset management are those that automatically, with no additional effort, keep the database up-to-date," Kanies says. "If you deploy a new server or application, the actual process of deployment—preferably done through automated means—should add that server to the asset database. This guarantees that your database always matches reality, and the need for discovery goes away entirely other than for legacy systems, and then it's a one-time action." P

Top Tip: Know Who Needs Discovery

IT staff members who oversee the network aren't the only ones with a stake in tracking what's on the network. Luke Kanies, founder and CEO of Puppet Labs (www.puppetlabs.com), identifies the groups within the typical company that have (or should have) an interest in what resides on the network. This information can help you push and develop efforts around network discovery.

- **Security staff and auditors**, because of the potential for security problems and the need for reporting.
- **Finance staff**, because they need to be assured they're getting maximum return on assets, and they need to track leases and similar elements.
- **Product/application staff**, because it's critical that any application updates cover all of the application instances.
- **IT staff**, because they're responsible for uptime, performance, security, and most other basic operational aspects.
- **Executives**, because essentially every other metric in technology—including utilization, efficiency, response time, and uptime—depends at least partially on this information being up-to-date.

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News

IBM Plans To Acquire Netezza

In an effort to strengthen its presence in the analytics market, IBM has entered an agreement to purchase data warehousing company Netezza for $1.7 billion, or about $27 per share. The addition of Massachusetts-based Netezza will expand IBM's business intelligence and database offerings, allowing the company to more directly compete with rivals. Following IBM's announcement, analysts began speculating that IBM's offer may open the door for its rivals to engage the company in a bidding war over Netezza, much like the recent battle between HP and Dell over 3PAR.

HP Reaches Settlement With Former CEO

HP has settled the suit against its former CEO Mark Hurd, which the company filed after Hurd took a job at Oracle following his departure from HP amid allegations of ethics violations and sexual harassment. HP alleged that Hurd's position as co-president at Oracle breached his separation agreement with HP and put him in the position to share trade secrets and company knowledge. According to the terms of the settlement, Hurd will be allowed to keep his position at Oracle and the $12.2 million he received for severance but is required to surrender more than 340,000 shares of HP stock, worth about $15.3 million.

Accuvant Acquires Cybersecurity Provider Ciphent

Security consulting company Accuvant acquired Ciphent, a provider of cybersecurity products, in late September. Accuvant says the purchase allows it to gain several strategic and complementary service offerings that will enhance its own ability to provide enterprise customers the security they need while simultaneously increasing its appeal to federal clients and midmarket accounts. Currently, Accuvant, a research-driven information security operation, offers solutions for three practice areas: information security research and assessment, risk and compliance management, and technology. Ciphent specializes in offering secure software development, managed services, training, and support products. Terms of the deal were not disclosed.

RIM Beats Forecasts

Although BlackBerry maker Research In Motion's stock has dropped some 30% overall this year—and the company has lost significant market share to Apple's iPhone—RIM's quarterly report reflected a jump in net income from $475.6 million to $796.7 million year over year, which works out to $1.46 per share; analysts had been expecting $1.34 per share. RIM's quarterly revenue grew 31%, and the company says it shipped a record 12.1 million BlackBerrys during the quarter. That's an increase of 45% compared to the same period last year. Some analysts have said that worries about competition from rival smartphone makers have been overblown, and RIM's recent performance may underscore that.

FEATURE PACKAGE

Understanding App Usage

Get A Better Handle On Who's Using What Applications & How Often

by Elizabeth Millard

• • •

Although some companies allow employees to use all available applications, there are distinct advantages to having more in-depth knowledge about who's using which program and to limiting usage based on productivity and appropriate use.

"Determining application usage has several advantages throughout the company," says Daniel O'Connor, product manager at AppSense (www.appsense.com), a provider of virtualization solutions. "There's benefit in terms of licensing and making sure that the people can run the correct applications they are licensed for."

Also, a large percentage of network bandwidth is consumed by applications, adds Marina Gil-Santamaria, director of product marketing for the Network Management Division at Ipswitch (www.ipswitch.com), and many of those apps are consumer-oriented external applications such as social media sites and toolbars.

"Tracking cross-departmental application usage can help maintain departmental productivity, as well as manage corporate bandwidth costs," she says. "When dealing with internal applications, determining departmental application usage could also help with auditability and accountability."

Get A Clear View

In order to obtain a good look at who's using what application, Gil-Santamaria suggests that IT managers should go deep into their flow data and look for a flow management solution that will let them analyze, alert, and report on the different types of traffic traversing the network.

Each flow-enabled router or switch collects and aggregates information about traffic passing through it, she notes, and when configured to do so, it transmits the info to a flow-enabled network management and monitoring system. This can help a manager understand which users, applications, and protocols are consuming bandwidth and also gives insight into the quality of service received by all applications, especially those that are mission-critical.

The strategy can also help in verifying ISP billing and properly planning for spikes in bandwidth usage, potentially resulting in fewer dropped packets and delays. Finally, this type of analysis can protect a network by tracking traffic anomalies, helping to detect viruses and worms on the network.

Another strategy is to build a usage profile for the application and its associated data, says Jon Heimerl, a director of strategic security for Solutionary (www.solutionary.com), an information security firm. "The brute-force method is to perform an information asset inventory," he says. "Each type of data is associated with its relevant applications. All staff members are functionally denied access to any application and data. Then, on a case-by-case basis, users or a user group are granted explicit access based on a manual review of all users and user groups by some set of knowledgeable staff within the organization."

Key Points

- Tracking application usage can benefit an enterprise in numerous ways, including licensing, productivity, accountability, and bandwidth management.
- To get a handle on app usage, consider a flow management solution that can report on different types of traffic on the network.
- An app usage policy should clearly set out the guidelines for access, including which departments have access to which applications, and should include what will happen if applications are accessed or used inappropriately.

An "access review" process is probably more realistic, though, Heimerl notes. In that case, IT compiles a list of all current user IDs that have access to the applications, and IT staff review the currently "as-built" access, approving continued access for known, authorized personnel and removing unauthorized personnel.

"In either case, user access is best controlled by managing group and profile access rather than managing individual access," he says.

Don't Forget Mobile

It's important to add mobile applications into the overall plan, as well, because monitoring mobile usage is vital for cost control, security, and policy management, notes John Blyzinskyj, president of software firm Avotus (www.avotus.com).

"Implementing a comprehensive inventory and usage management system is central to gaining and maintaining control over mobile usage," he says. "These systems track who is using which devices, how much cost they are incurring, and what their pattern of usage is."

When coupled with effective policy enforcement—including device and plant selection, rate plan optimization, and unapproved use policies—IT managers can reduce their costs, improve policy compliance, and reduce risk without impacting usability, Blyzinskyj notes.

Address App Misuse

Creating a culture of accountability can sometimes be tricky. Zohar Gilad, executive vice president for Precise Software (www.precise.com), notes that quite often, departments don't want others to have visibility into their activities or software assets.

"They are afraid of transparency," he says. "For example, a user of an HR application may not want a database administrator or user from another department to have visibility into what's happening on his or her turf."

Because of those sensitive issues, having a strong user application policy is crucial, as well as articulating what will happen if applications are used improperly.

If an employee goes against policy and is accessing applications inappropriately, the handling of the situation will really depend on how the app is used, Gil-Santamaria notes. For example, if someone in the accounting department is watching online videos and consuming bandwidth, the response might be to prevent that person from accessing the Web or to issue a warning.

But if that person works at a healthcare services firm and gets curious about a particular patient's data, the response would be very different because it constitutes a compliance violation. In that case, there should be a real-time notification in writing and an activation of well-defined response policies.

Heimerl says the ultimate question when creating an app usage policy and enforcing it should be "Does the employee need access to do his or her job?" If the answer is no, then there should be no access, and if the answer is yes, then it's time to determine the level of access that's needed.

"There will be times when reviewing staff just don't know if access is appropriate," he says. "In such a case, they must take time to review, discuss, and decide on allowing or disallowing access. More often than not, this almost always comes down more to someone's feelings being hurt than it does to a technical issue." P

Top Tip: Create An Overview Document

Rather than simply employing app usage tracking software, the effort should be a larger strategic plan, believes Marina Gil-Santamaria at Ipswitch (www.ipswitch.com). She notes that it's important to prepare an overview document containing project scope, goals and objectives, constraints, and high-level risks. The document should be reviewed and agreed upon with all key stakeholders and should be re-reviewed when new applications are deployed or re-architected. She says, "Also, if this initiative is driven by security or compliance regulations, you might rally more support than when you are focused mainly on internal accountability."

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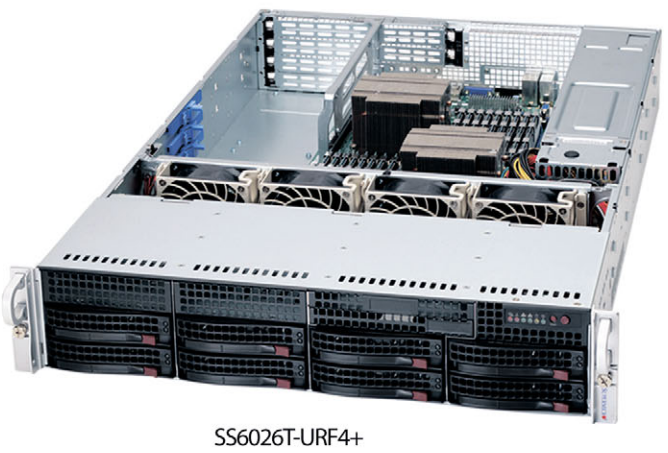

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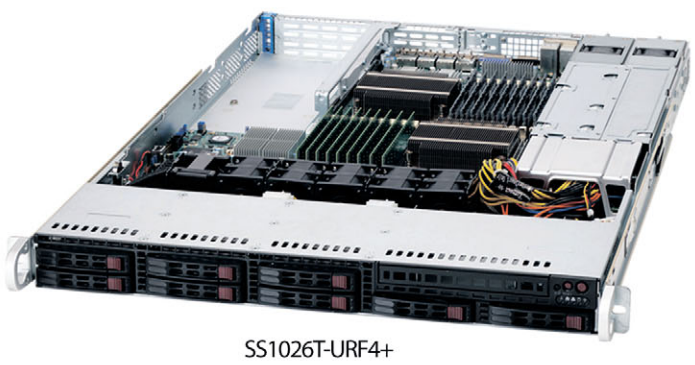

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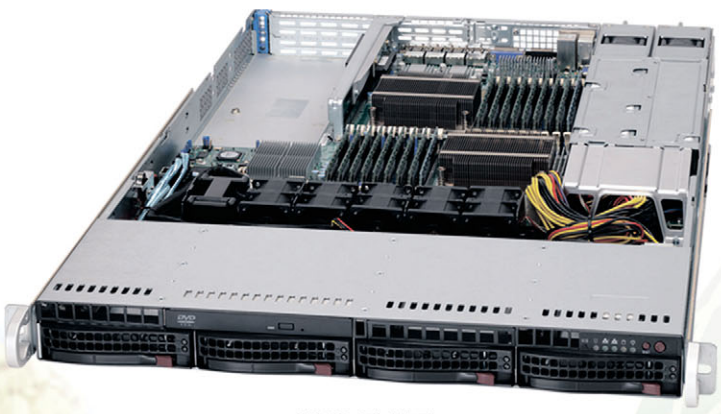

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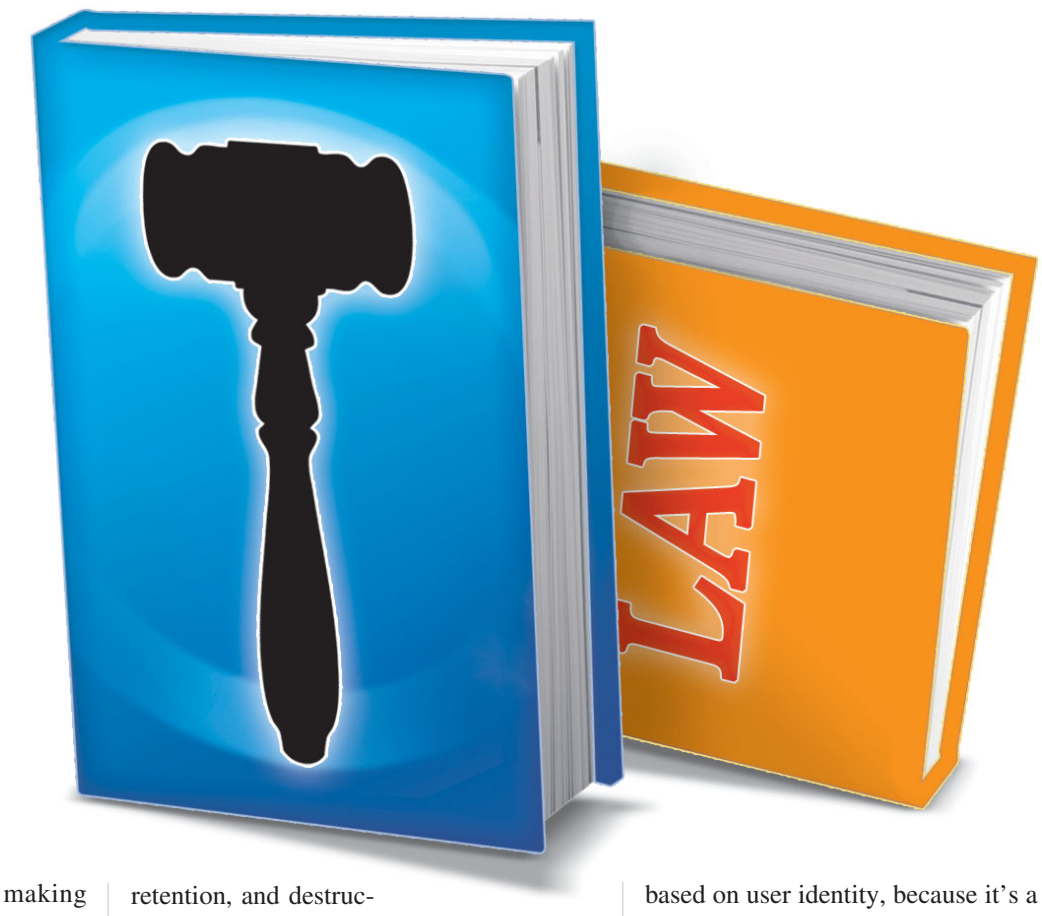
FEATURE PACKAGE

Lay Down The Storage Usage Law

Acceptable Use Policies & Attention To Compliance Requirements Are Key To Managing Networked Storage



by Dan Heilman

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THE BEST THING about providing computers for your employees is that eventually they feel as comfortable with their workstations as they do with their home PCs. Unfortunately, that's also the worst thing about it. Employees often pay little attention to documents, large email attachments, and other large files that clutter up their hard drives and your servers. In some cases, workers are even content to dump their MP3 collections or photo archives onto their work computers, causing unnecessary storage problems. Luckily, there are a number of techniques that can keep storage on work computers under control without making you look like a Scrooge.

Implement Governance

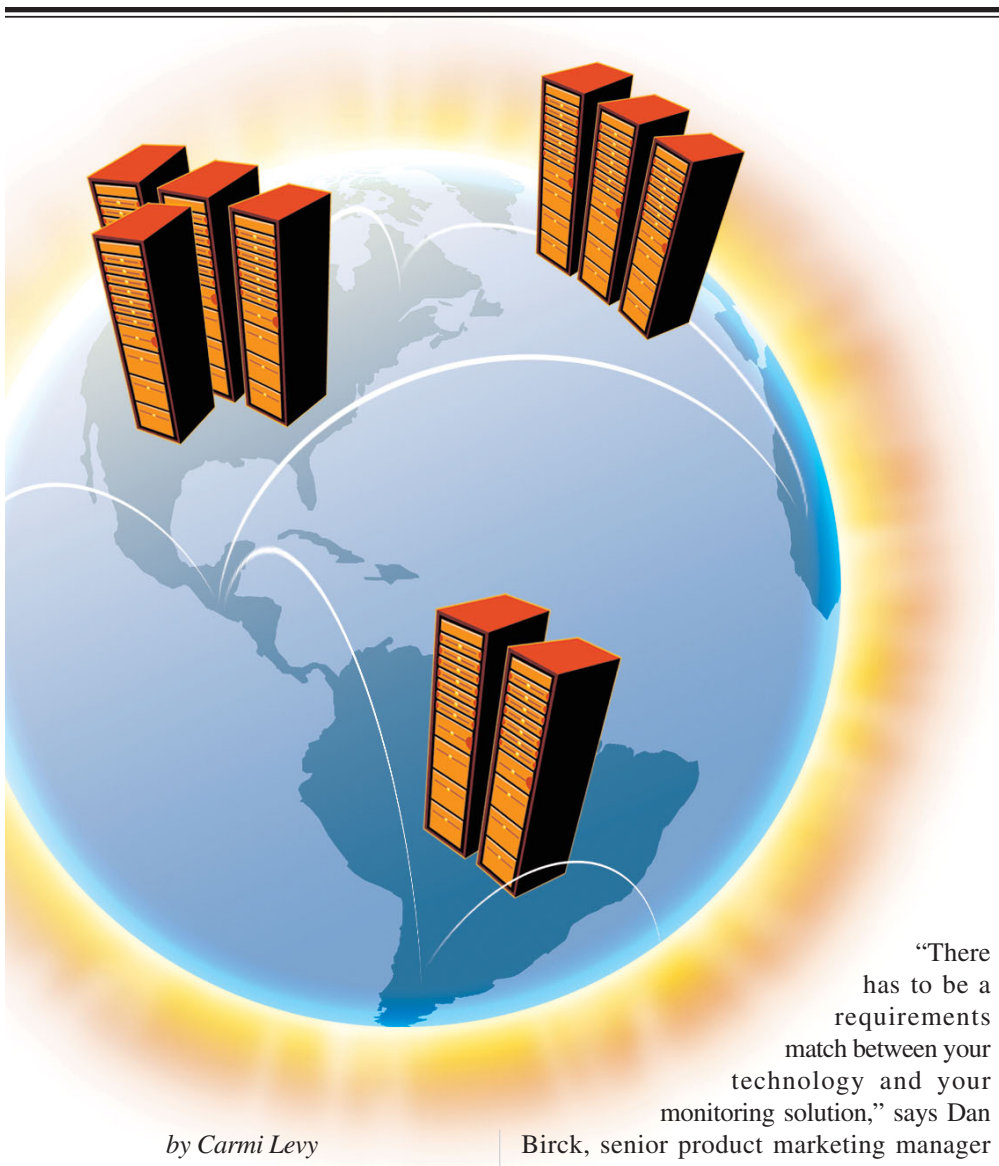
If you're in a heavily regulated industry, such as government or health care, compliance laws might have actually done the dirty work for you, according to Dr. Mickey S. Zandi, managing principal, consulting services, SunGard Availability Services (www.availability.sungard.com).

"A lot of storage applications are actually driven by compliance issues, from requirements of the federal government and beyond," Zandi says. "An organization should look at its record management, retention, and destruction policy and determine its storage needs based on if it depends on having records. For instance, if you have items that have a retention policy, then a company would have to continually increase its storage capacity and requirements."

Many companies that aren't subject to government regulation are unable to successfully implement and enforce policies for user storage partly because they rely on users to follow policies, and users don't put IT policies at the top of their priority lists. Sophia Germanides, a product marketing manager at Novell (www.novell.com), says the right strategy for data governance is based on user identity, because it's a person's role or identity that makes his files relevant to an organization.

"The only effective approach to executing this data governance strategy, whether for storage capacity reasons or, more important, for compliance, is to put the policies into the network," Germanides says.

That means you have to be able to inventory all your data across the network—not by server, but by user and departmental group—to see really who is using or abusing the space, Germanides says. She adds that when creating policies, you should take into account actual



Managing From Afar

How To Improve IT's Vision Into Network & System Performance

by Carmi Levy

• • •

AS THE RUSH TOWARD more efficient, secure, and consolidated data center facilities continues, keeping track of performance becomes more critical than it's ever been. Updated monitoring tools can help IT maximize performance and minimize downtime, but the organization risks flying blind if it fails to invest in proper processes, as well.

"There has to be a requirements match between your technology and your monitoring solution," says Dan Birck, senior product marketing manager with Nimsoft (www.nimsoft.com). "It is essential to properly prepare your data center environment and select the correct monitoring technology to meet today's and tomorrow's objectives."

Key Considerations

Although out-of-the-box monitoring solutions may have been sufficient in the past, today's complex networks require IT decision-makers to take a more services-focused approach. Birck recommends asking yourself a range of key questions before narrowing down your choice of monitoring solutions.

Does the product support VoIP or virtualization? The growth of bandwidth-heavy applications has rendered traditional QoS criteria inadequate. Interruptions that the average user might not notice—a slight delay in load times, for example—could be fatal to a real-time voice or video call.

"IT departments must have the tools to measure, in real time, application performance as perceived by the end user and, more importantly, the actionable information needed to quickly pinpoint the likely cause of the performance problems so service level can be restored before it impacts the business," says Ali Hedayati, president and COO of Coradiant (www.coradiant.com). "Trying to pinpoint the cause of performance problems without an end-to-end monitoring and diagnostic tool will be like looking for a needle in a haystack."

Are your naming conventions up to snuff? Environments where devices and services are deployed with a consistent naming convention are easier to transition into updated monitoring solutions than those that have evolved in a haphazard fashion. Virtualization makes a bad situation worse.

"We see the rise of vast virtual machine (VM) deployments across the enterprise due to the simplistic ability to provision a new VM," says David Richardson, product manager with the Avocent division of Emerson Network Power (www.avocent.com). "We see this VM sprawl across the enterprise and see customers struggle with establishing the processes to ensure VM infrastructure and resources are managed properly."

Clean up the environment with operational processes and a one-time sweep before bringing in new network monitoring and management services.

Do you have up-to-date network diagrams? You can't manage what you can't

usage patterns as well as your ideal state and business requirements.

And, she says, automate the process: "Automation of user file management is essential, both for minimizing the manual effort for these routine tasks and also for driving out the risk of human error when dealing with access rights and sensitive data."

Put It In Writing

An employee's inappropriate use of network storage resources can negatively affect other employees' speed of access or storage space for work-related material, which makes it a good idea to include a provision for this in your company's Internet acceptable use policy. Zandi says four primary factors should be considered when drafting such a policy:

- Understand what your accessibility requirements are.
- Know what business liability regulations your organization needs to be aware of.
- Know how much budget this initiative has access to.
- Look closely at your company's resiliency and security needs.

Policies along these lines should guide employees concerning the use of storage space and bandwidth on the system to maximize utility to all employees, says Rebecca Ayers, public relations manager at SpectorSoft (www.spectorsoft.com).

Examples of restrictions you might consider include directives against downloading games or other non-work-related files; restrictions on downloading large files that can be obtained offline; and instructions to move old or seldom-used files, programs, or email to alternative storage.

"We encourage companies to frequently revisit their policy, communicate the guidelines clearly to employees, and enforce those policies with employee monitoring software," Ayers says.

Housecleaning Time

Another two-pronged method of maintaining at least a modicum of control over your storage resources is data optimization and email management. The latter can be an especially pesky undertaking: Odds are your disk storage resources are overrun with stale email messages. Backing up email has become a drain on both time and storage, and once they're tucked away in one among a huge stack of storage tapes or disks, specific emails are almost impossible to find.

When figuring out how to manage all those emails, the first thing you should find out is exactly the volume of data you're dealing with, according to Tom Bridge, email management and archiving practice manager for Logicalis (www.us.logicalis.com).

The next step is figuring out what you want to back up. Bridge says many of his clients are surprised to learn that they've been backing up the same 10-year-old messages every night for years. With the right service provider, it's easy to eliminate that redundancy. P

Key Points

- Be sure you know and understand your company's compliance and regulation requirements when it comes to retaining data.
- Draft and enforce an acceptable storage use policy to keep employees from needlessly cluttering up the system.
- As often as practical, do a detailed backup or optimization that gets rid of unneeded emails and files.

Top Tip: Optimize Your Storage

Disk optimization, or running an automated process that collects file fragments and pieces the relevant ones together while ditching what's redundant or not needed, is an important tool in your storage toolkit. According to Dr. Mickey S. Zandi, managing principal, consulting services, SunGard Availability Services (www.availability.sungard.com), a frequent cycle of optimization—quarterly if not monthly—is a good way to slough off dead data that's hogging expensive disk space.

"Think of [data] as a Halloween costume," Zandi says. "You don't leave things that you wear once a year in the closet, in front of your face. You move them to the basement where you know where they are but only access it when you need it. That's why a storage retention policy is key to understanding the best approach, based on what the requirements are."

Another option is a secure, cloud-based file delivery service. Such a service can take bulky data off your hands by enabling employees to send and receive big files that might normally come attached to emails.

see. Graphically laying out all your equipment, as well as usernames, passwords, and credentials, simplifies implementation and long-term monitoring operations.

"Customers that have large-scale, heterogeneous server deployments are seeking a way to leverage their service processor investment but are finding the ability to keep track of each username and password for each service processor a management challenge," Richardson says. "Those customers that do not have an access and control management solution that can manage the access and control of heterogeneous service processor cards and provide an aggregate view are resorting to storing access data in spreadsheets, or worse, using standard usernames and passwords to enable users' access to server infrastructure, creating security and audit risk."

Key Points

- Relatively new technologies such as VoIP and virtualization are challenging IT to implement more service- and business-oriented monitoring capabilities.
- IT should standardize device naming conventions, usernames, and passwords before bringing in a new monitoring solution.
- Remote management and monitoring solutions can play a key role in reducing power usage across the network. Use projected power and cooling savings calculations to help build the business case for these tools.

Do you have a green agenda? Growing pressure to reduce power and cooling expenses and shrink the organizational carbon footprint is helping strengthen the business case for network and systems management investment. Current-generation solutions allow IT to power individual devices on and off across the entire network landscape, which gives data center staff greater ability to hold the line on energy consumption.

Extend Into Incident Management

Against this evolving backdrop, remote monitoring is moving away from its roots as a simple means of improving visibility into system and network performance. Nimsoft's Birck says one of the most visible value-adds beyond basic console operations can be found at the help desk.

"Integrating with the service desk or network operations center's incident management system is a great way to gain support for adoption and to leverage the value of the proposed monitoring solution," Birck says. "By letting the monitoring solution open incidents for items and issues that are critical to the business, you add a whole layer of value. You're not just opening up another console that can just be ignored. You're taking things a step further than simply generating an alarm."

This real-time, service-driven capability allows IT to improve business-as-usual operations while proactively closing incidents. It also lays the groundwork for longer-term improvements to the operational environment by identifying root causes and preventing issues from recurring.

Focus On People & Processes, Too

Beyond the technology itself, remote management tools encourage more efficient deployment of human assets.

"With the use of remote management tools, IT administrators, departments, and end users are able to manage the systems from their desks without having to travel to the server room, saving time and money, whether the data center is in another building up the street or across the world," Richardson says. As organizations grow and establish offices in different geographic regions, the need becomes even more acute. Richardson says this often leads to each location developing its own processes and standards.

"Remote management tools provide the ability to have a common view and the ability to access and control the inventory," he adds. "This capability enables the opportunity to standardize processes across the organization. This helps companies achieve greater uptime, faster SLA response, and better customer service, which results in cost savings." P

Top Tip: Know What You Need Before You Buy

The sheer range of monitoring capabilities means, contrary to vendor marketing claims, no single solution can do it all. Itemize the key needs of both IT and the business before beginning to assess which solution meets your particular needs. Major categories include performance availability monitoring, software distribution, antivirus and malware protection, and incident management and ticketing. No one vendor is best-of-breed in all of them, and claims of enterprise scalability aren't always easy to validate. Test drive each solution to determine whether its features match your anticipated needs.

News

Yahoo!'s New "Chicken Coop" Data Center Opens

Upstate New York is the home of Yahoo!'s new self-cooled data center with a unique "chicken coop" design. The energy-efficient buildings are designed with open-air walls that allow outdoor air to cool the servers. Data center halls are angled to allow for the most airflow from wind, which, according to the company, will naturally cool the data center 99% of the time. The Yahoo! Computing Coop uses hydroelectric power (most of which is generated by Niagara Falls)—one of the reasons Yahoo! chose the location. According to Yahoo!, the Lockport, N.Y., facility is the greenest data center the company has built to date.

Report Shows Increase In App Downloads

Apple iPhone App Store users download twice the number of applications as Android or BlackBerry users who download from the Android Market or BlackBerry App World, according to a report from Nielsen. The Nielsen report also shows that iPhone users are more willing to pay for apps, whereas Android Market and BlackBerry App World users download more than 3.5 apps for every purchased app. Some of the most frequently downloaded apps include games and weather apps, with Facebook being the most popular single application across all smartphone operating systems. Teenagers are more receptive to mobile ads compared to older users: 58% of teens check mobile ads always or sometimes.

Gates Tops List Of America's Richest

Forbes' list of the 400 richest people in the United States shows that Bill Gates is still the wealthiest man in America with a net worth of $54 billion. Warren Buffet, worth $45 billion, is second on the list. The top 10 billionaires on the list are all over the age of 50; Google co-founders Larry Page and Sergey Brin are the two youngest billionaires in the top 25. Facebook founder Mark Zuckerberg, who didn't qualify as a billionaire in 2009, is worth $6.9 billion this year and tied for No. 35. Zuckerberg leaped ahead of Apple founder Steve Jobs, who is ranked at No. 42 with $6.1 billion.

Google Sued By Wi-Fi Company

Skyhook Wireless is suing Google for blocking its relationship with handset maker Motorola and for infringing on its patents. Skyhook Wireless, which triangulates Wi-Fi access points, contends that it was set to partner with Motorola, which was planning to use Skyhook's location technology instead of Google's. Allegedly, Google executives intervened and convinced Motorola to reconsider. Skyhook believes it was illegally undermined by the search giant and is seeking millions of dollars in damages. Additionally, Skyhook believes that Google infringed on four of its patents and seeks monetary compensation in addition to blocking the use of Google's location software.

STORAGE

FEATURED COMPANY

Dependable Data Backup

NovaStor's Backup Solutions Are User-Friendly, Affordable & Reliable

by Holly Dolezalek

• • •

In an age of compliance requirements, ballooning storage, and disaster recovery plans, data backup is becoming more important than ever, and NovaStor is one company that's making a name for itself in the data backup space.

NovaStor (www.novastor.com) has been around since 1987, but the company went through a management buyout in 2009 and has spent the past year or so repositioning itself. The former owner was a publicly traded company, so with the buyout by NovaStor's management, NovaStor has gone back to being privately owned. "[The buyout] was a focus thing," says Michael Andrews, managing director for NovaStor. "It gives us the opportunity to make the right decisions, and there's nothing forcing our hand."

Storage & Protection

NovaStor makes data protection and availability software. Its first and flagship product is NovaBackup, which is available at consumer, small business, and enterprise levels. The Professional version backs up PCs and laptops; Server backs up Windows servers; Business Essentials backs up SQL and Exchange servers; Network backs up centralized network data; Remote Workforce offers multisite backup for companies with many locations; xSP is offered for software-as-a-service delivery; and Data Center is a high-end version for service providers that have enterprise-level volumes of data through their customers.

NovaBackup can be used in a hybrid capacity between local and offsite storage, back up local devices, or run the backup through a service provider to offsite devices or cloud devices. A patent pending technology allows the software to restore data as well as back it up. "Because we have all levels of backup solutions, we can work with a customer to select the method that makes the most sense for them," Andrews says.

The software can also keep track of where information is stored; an Explorer-like tree tracks each type of storage device and where the most recent versions of data are stored.

"You can see multiple locations in a single view, and it can also be selected by device or point in time," Andrews says. "The software has a slider bar to see data over time—what files you have on what date."

International Data Backup

NovaStor is a hybrid of foreign and domestic companies. The privately held company was actually founded in the United States in 1987, but it was acquired by a Swiss company in 2005 and is now headquartered in Zug, Switzerland; it is also incorporated in Hamburg, Germany, and in Agoura Hills, Calif. The chairman and other financial employees are in Zug, while sales teams, engineers, and tech support employees for different NovaStor product lines are in Hamburg and Agoura Hills. NovaStor also owns about 40% of a company in Finland, which sells NovaStor products in the Scandinavian region. Overall, the companies' employees are about evenly split between the Europe and California locations.

NovaStor's business is also pretty evenly split between enterprise and SMB sales, with a tiny percentage of consumer sales, as well. About 60% of its overall business comes from its international sales, which come primarily from the Scandinavian region and other English-speaking countries, such as New Zealand, Australia, the United Kingdom, South Africa, and Canada. The rest come from the United States.

NovaStor's products support other languages than English—French, German, Italian, and five different dialects of Spanish—and a new deal with a network technologies company is driving an upcoming release that supports Russian and Chinese. NovaStor also hopes to move into more Asian markets. "We hope to do better in the Latin American market, and we have a major deal with Telefonica in Spain, so we've discussed a Spanish-language Web site," Andrews says. "It's a true market we could go after."

NovaStor's sales are segmented into direct and indirect sales. About 20% are direct, through NovaStor's online store, and Andrews says the company hopes to move that figure closer to 10%. The indirect sales include OEMs and resellers, and although it's hard to estimate because of service provider relationships and other factors, Andrews believes about 90% of the indirect sales come from the reseller channel. "We have about 1,000 consistent and active resellers," he says. Those resellers are in Europe (60%) and the United States (40%), but because the enterprise product is sold out of Europe, the average sale price of European transactions is larger while more volume comes out of the United States.

The company has a million customers, between actual users and service providers' users, and Andrews says the company has distributed tens of millions of licenses through OEM deals, reseller business, and direct sales.

The company targets smaller OEMs for those relationships, Andrews says, because relationships with larger companies in OEM deals have proven to be a lot of work. "We focus on smaller, second-tier OEMs, although we're working on deals with larger companies, because we've had some difficult experiences in that area," he says. At the moment, the company has OEM relationships with about 20 manufacturers.

Maneuvering For Name Recognition

As a small company, Andrews says, NovaStor has the agility to maneuver swiftly in the marketplace. That agility is essential in a marketplace that's constantly changing. "MSPs, cloud and virtual machines, data deduplication, new storage technologies and capabilities—we have to adapt quickly and always have to be on top of all of it," Andrews says.

The company hopes to build more name recognition with new OEM deals, and it's expanding its staff—NovaStor has doubled its workforce in the Agoura Hills location, and those new positions are sales, engineering, and marketing positions. "We've expanded our capabilities to get the word out about our products," Andrews says. Otherwise, the plan is to stay on the same path the company is on.

"We're going to expand the channel and continue going after resellers," Andrews explains. "We have too many resellers that we've hit once and moved on, so we're going to focus on deepening and building that channel across the world."

The company plans to pursue leadership in a couple of areas: virtual machines and managed service providers. "We're creating a technology that will make us unique in the virtual machine space," Andrews says. "But we're also looking to be leaders in the MSP space, because there's no 800-pound gorilla in that space yet." P

NovaStor

(805) 579-6700
www.novastor.com

- NovaStor specializes in user-friendly, high-performance, and low-cost data protection and recovery products that are compliant with regulatory requirements.
- The company serves customers in the consumer, small business, and enterprise spaces in the United States and Europe, with plans to expand business in Eastern Europe and Asia.
- "Because we have all levels of backup solutions, we can work with a customer to select the method that makes the most sense for them," says Michael Andrews, managing director for NovaStor.

NovaStor Offerings

NovaStor features a variety of products for customers of all sizes. Here's a sampling of what the company has to offer.

Product	Function	Cost to Buy	Cost to Subscribe
NovaBackup Business Essentials	Backs up Windows Server files with SQL 2008 and Exchange 2007	One license: $299.95	$119.95 per year
NovaBackup Professional	Backs up files on PCs, laptops, and workstations	One license: $49.95 Three licenses: $99.95 Five licenses: $149.95	$19.95 per year (one license); $39.95 per year (three licenses)
NovaBackup Server	Backs up applications and files on Windows Servers (2003, 2008)	One license: $199.95	$74.95 per year

STORAGE

CASE STUDY

Outsourcing Backups

Backup My Info! Improves Reliability For Protravel

by Sue Hildreth

• • •

DATA BACKUPS and disaster recovery plans get top priority when a server fails or a flood or fire wipes out data, but they don't often get a lot of attention when everything is running smoothly. Ensuring that the corporate data is backed up correctly every night and stored securely offsite in case of calamity is necessary, but it's sometimes overlooked or taken for granted.

When Lou Moran, the CTO of Protravel International in New York, first joined the company in 2005, he discovered that Protravel's storage backup system involved little more than running a tape backup program and then sending the finished tape home with one of the IT administrators to store in his house. That was the extent of the company's backup and recovery plan.

"When I came in, the [disaster recovery consisted of] administrators taking tapes home with them," he says. With annual sales of $700 million and an employee population of 750 and growing, the retail travel agency, which has 24 locations in the United States, was far too large to continue with such a homegrown approach to disaster recovery. Although the company's most critical customer information—travel itineraries and transactional data—is safely stored offsite, with Protravel's hosted travel and booking applications, the company's operational data was not well protected and thus vulnerable to loss in the event of fire, flood, or server failure.

Cloud-Based Storage Wins

Moran considered a couple of options for improving Protravel's backup strate-gy. One approach would have been for Protravel's IT staff to continue to back up the data to tape and then send the tapes to a secure offsite location such as a storage facility or hosting provider. However, Moran decided that subscribing to cloud-based storage provider BUMI (Backup My Info!; www.backupmyinfo.com) was a better, more flexible option.

Having the data backed up to the cloud, rather than on a tape that is stored offsite, means that it is available via the network and thus more quickly recoverable. If files are accidently deleted, they can be retrieved in a few minutes, Moran says. Large amounts of data take more time but can still be recovered within a few hours.

"We lost a file server due to the AC being turned off one weekend, and we had to restore pretty much from scratch. We did it from BUMI and it took just a few hours," Moran says. By comparison, having the data on tape stored offsite would require the storage company to ship the physical tape back to Protravel. There's also the risk that the tape could go missing in storage, an event that actually happened to Moran at a prior job, when the hosting company frequently misplaced or lost backup tapes.

Concern over lost tapes or failed backups is one reason that adoption of cloud-based storage is on a gradual upswing. Big players, along with smaller firms such as Backup My Info!, have launched cloud storage services. According to a Forrester survey done at the end of last year, 43% of the responding companies said they were interested in cloud-based storage, though they had no immediate plans to move to the cloud. Another 8% planned to implement cloud storage within the next year or so. In addition to data backup, companies may store data in the cloud as part of a cloud-based application that includes storage or for general file storage. IT research firm IDC reports that the adoption of cloud storage services is driven mainly by cost-saving strategies, which include offloading the costs of labor and capital investments.

Moran was familiar with BUMI, a New York-based provider of storage management services, from a prior workplace. He felt the company's security and level of service fit Protravel's needs.

Protravel now backs up all of its internal, operational data at BUMI. That consists of 100GB of data from several SQL, Office, and SharePoint databases on its intranet, including administrative documents, financial data, vendor contracts, and SharePoint files, at a monthly cost of about $1,000.

The client-side software runs on a system located at Protravel and holds the files and data from the most recent backup, all in encrypted and compressed format. It's that onsite backup that Protravel turns to first to restore a lost file. That recent backup is eventually sent across a VPN to BUMI, and a new backup is saved to the local server.

Outsourcing As An IT Strategy

Outsourcing is a strategy that Moran feels is appropriate in the case of Protravel's data backup and its email, which Protravel also outsources. The monthly cost for that hosting service, which includes the hardware, maintenance services, security, and software, runs $12,000. That is inexpensive compared to what it would take for Protravel to maintain its own email server, Moran says.

"The main reason to outsource anything is so that I don't have to staff it, and I don't have to deal with it. I don't have to deal with a massive tape library or an Exchange Server for 900 people with another one for redundancy in some other part of the country. It'd cost me a fortune [in upfront costs]."

Over the long term (three years or more), the comparative costs of onsite backup and cloud-based backup become more comparable, Moran says, but only if the storage needs of Protravel don't expand, requiring yet another investment in hardware, software, and labor. Moran also says he isn't sure the reliability of an in-house backup would be as good. BUMI's features include bare-metal backup, which lets Protravel restore a complete system on new hardware.

"We were under a gig when we started, and up to 100 gigs now. If I was storing it all on a NAS, I wouldn't be able to get the compression ratio that BUMI has, and I'd have to rent a collocation server somewhere," says Moran.

With cloud-based storage, capacity can be added quickly without requiring the configuration of additional hardware or software. In some services, the customer can order up additional capacity over the Web, without needing to talk to a human.

What Moran likes best about using the BUMI service is that it includes one-on-one assistance from BUMI engineers, who configure and implement Protravel's backup plan and actively monitor the daily backups, alerting Protravel if there is a problem.

"It's kind of like hiring a backup admin, in the case of BUMI. I've got their people calling me first thing in the morning saying, 'Hey, the backups were off last night. Is something wrong? Do you need us to take a look?' They're doing the thing every IT manager hopes for—they call you before you can call them," he says.

Backup My Info!

A New York-based provider of online backup and recovery services to small and midsized organizations. It provides offsite data protection and active support and monitoring by its team of engineers.

"The main reason to outsource anything is so that I don't have to staff it and I don't have to deal with it," says Lou Moran, the CTO of Protravel International.

(866) 444-2864 | www.backupmyinfo.com

PLIANT LIGHTNING® LB 200M & LB 400M — NEW PRODUCT

by Marty Sems

Lightning-Fast Storage

SOLID-STATE storage vendor Pliant Technology is squarely focused on the enterprise, and it shows in its product line. Its Lightning EFDs, or enterprise flash drives, exceed the performance of run-of-the-mill SSDs through a combination of a unique software architecture and a controller made specifically for the data center's high levels of throughput.

Pliant Lightning LB 200M & LB 400M
High-performance enterprise flash drives that boast multilevel cell flash memory.

Now Pliant's Lightning family of EFDs has grown: The new Lightning LB 200M and LB 400M make use of MLC (multi-level cell) flash memory. Long known for its high capacity for the money as compared with SLC (single-level cell) flash, MLC has repeatedly proven that it can be as reliable and speedy as the enterprise demands.

The LB 200M and LB 400M are 2.5-inch drives with 200GB and 400GB capacities, respectively. They come with dual SAS ports that can be aggregated for increased performance.

Pliant cites sustained, real-world throughput figures in impressive territory. The LB 400M is able to surpass 10,000 I/Ops with a 70% read/30% write load of 4KB files, the company says. The LB 200M, meanwhile, manages more than 8,000 I/Ops with the same workload. Pliant builds the drives without write caches to not only smooth out performance to predictable levels but also to ensure data integrity in case of a power failure that would otherwise flush unwritten data from a volatile cache.

The company says that both new EFDs are well protected with a variety of advanced reliability measures, including T10 DIF (Data Integrity Field) support, enhanced ECC for both data and metadata, and Memory Reclaim and Patrol Read operations that run in the background. Pliant even claims unlimited write capabilities for the entire Lightning product line.

Pliant™ Technology

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News

Enterprise Storage Market Recovering Well, IDC Says

In the second quarter of this year, worldwide factory revenues for external disk storage grew 20.4% year-over-year, representing about $5 billion, while total disk storage systems grew 20.7% to $6.8 billion, showing that the enterprise disk storage market is recovering well, according to IDC.

Such striking growth was to be expected, as the second quarter of 2009 was weak—indeed, the entire first half of 2009—but the second half of 2009 saw steady improvement, which has carried into the first half of this year, IDC notes in its Worldwide Quarterly Disk Storage Systems Tracker report. So far this year, the external disk storage systems market has grown 18.6% compared to the first half of 2009, but just 3% compared to the second half of 2009.

Part of the reason for the upswing is that companies are requiring more storage capacity. In fact, the amount of storage capacity shipped in the total disk storage systems market was up 54.6% from 2009. This need will likely continue to drive market growth.

Open networked disk storage systems, which IDC defines as NAS combined with Open or iSCSI SAN, was up 29.2% from a year ago to $4.2 billion in revenues. The Open SAN market also saw growth, up 21.8% year over year. The NAS market grew 51.1%, and the iSCSI SAN market grew 49%.

Market Leaders

In the worldwide external disk storage systems market, EMC tops the factory revenue list with 25.7% of the market (up from 22% in 2009) and revenues of about $1.2 billion. IBM maintains its second-place position, although the company lost a bit of market share and is down to 13.6% from 14.7% on revenues of $680 million. NetApp (11.4% of the market, $571 million in revenues), HP (11.3% of the market, revenues of $567 million), and Dell (9.4% of the market and revenues of $472 million) round out the top five.

The worldwide total disk storage systems list plays out a bit differently, with HP (19.3% of the market, $1.3 billion) and EMC (19% of the market, $1.28 billion) statistically tied for first, followed by IBM (15.8%, $1.07 billion), Dell (12.3%, $832 million), and NetApp (8.4%, $571 million). IDC considers a less than 1% difference a statistical tie.

Despite the increase in revenues, IDC notes that growth is likely to plane out somewhat in the near future.

by Seth Colaner

SECURITY

Web 2.0's Impact On Security

Protect Your SME From New Threats

by Robyn Weisman

• • •

You can't stop LinkedIn or Twitter or any of the so-called Web 2.0 darlings from invading your SME. Maybe a couple of years ago you could lock down your network and keep this stuff out, but now portions of your enterprise rely on social media to do business. Your human resources department probably uses Facebook to perform background checks, your support department may use Twitter to respond to customer questions, and your marketing department may post demos of your company's products on YouTube.

"The explosion of Web 2.0 has changed the paradigm and required companies to look for ways to become more granular. You can't say you don't want to use Facebook or YouTube in the workplace because those have now become enterprise usable services," says Tamir Hardof, group manager, product marketing at Check Point (www.checkpoint.com).

Key Points

- Your enterprise can no longer choose to opt out of Web 2.0 because business processes increasingly are relying on them.
- Engage your employees so that they have an active role in maintaining your enterprise security.
- Match your security policies to your business needs. This requires good communication between IT and management.

Socialware (www.socialware.com). "Social networks are colliding with the enterprise, as [they] are being brought into the enterprise by employees. Customers and profits are demanding that enterprises start adopting social and come join them, because that's where they are spending their time," he says. "These social networks are becoming the next Google, and if you're not there, you're going to be at a competitive disadvantage because the Internet [itself] has become social and has permeated everything we do, as businesses [and] as consumers."

> "Social networks are colliding with the enterprise, as [they] are being brought into the enterprise by employees."
>
> *- Socialware's Chad Bockius*

Recently, Check Point and the Ponemon Institute released a survey called "Web 2.0 Security in the Workplace" that looked into concerns that IT security admins from around the world had about securing the data center in the wake of Web 2.0. The primary threats mentioned, which include the influx of viruses and malware into the network, along with workplace inefficiencies, are issues that almost every IT department faces.

While Web 2.0 applications and Web sites have complicated IT's ability to secure the network, you can maintain and, in some cases, even improve your security profile if you take note of certain strategies. Dealing with social media head-on may well lead to a more efficient and flexible network protection over the long haul.

Participation No Longer A Choice

Hardof says that even before Web 2.0 exploded onto the scene, Check Point had been looking at ways to control user interactivity with applications, and most of the time, access to Web applications was handled using URL filtering. "You could create policies that controlled what Web sites could be accessed, but it was a binary yes or no. You didn't have the ability to control access in a more granular way, where you could allow access to some Web 2.0 apps but not others and access to some functions of Web 2.0 sites or applications on a user level," he says.

Granular management is a necessity because participation in social media is no longer a choice, says Chad Bockius, CEO of social media solutions provider

Create A Culture Of Security

To a large extent, your network security is only as good as your employees, so it is important to train them to take more responsibility in this regard. It isn't enough to give a crash course on security during employee orientation and then just post your policies in the break room or in a periodic in-house email.

Therefore, you need to create a culture of security within your enterprise so that it becomes second nature to people, says Charles Kolodgy, research vice president, secure products at IDC. "Set it up so that the end user has to make the ultimate decision. Interestingly, you are training your employees [when] the message comes up saying, 'The release of this information is in violation of our policy. Do you still want to continue?' Then you would continue if there were a valid reason, such as sending a spreadsheet to someone who is authorized to have it," Kolodgy says.

Kolodgy explains that creating this culture requires a two-tiered approach. You need to continually educate your workers through traditional approaches and through reminders that show up when the end user tries to access a given Web site or application, and then you need the right tools that can monitor and block access by user or group and can prevent data loss should anyone attempt to ignore policies.

Check Point's Hardof concurs, adding that engaging end users to adhere to your security policy is especially important, given that most breaches are unintentional. "Employees are often unaware of corporate policy when they use Facebook from work, so having the flexibility to choose the level of sensitivity and the number of times you want them to be reminded [is important]," Hardof says. "You can even [set it up] so that each user can choose a response in real time, if they're going to a social networking site, to say whether they are accessing [this site] for business or personal use."

Match Security To Your Business Needs

Socialware's Bockius urges that whatever you do, make sure you are involving your business' stakeholders in understanding enterprise security needs before making a move. "This goes well beyond just turning on access to, say, Facebook. For example, the CMO is concerned about brand protection, so how do you enable access to social networks while being sure that if somebody makes a disparaging comment about the brand, you can monitor and capture that before it goes out?" Bockius says.

Hardof says that business needs can best guide security policies in this Web 2.0 world. "If your CFO says, 'I want to make sure my finance team doesn't have access to Facebook or other sites where potentially there is a greater risk for exposing sensitive information,' then you should be able to take that and create a policy specifically to meet that need without interfering with other [departments] and without interfering with the other things that the finance team needs to do," he says.

Web 2.0 Threats

This chart, from the "Web 2.0 Security in the Workplace" study, shows the types of threats that U.S. IT and IT security practitioners see presented by Web 2.0.

What threats or problems do Web 2.0 applications cause when downloaded and used?	
Viruses	49%
Workplace inefficiencies	63%
Malware	52%
Data loss	49%
Botnets	13%
Bandwidth performance	10%
SQL injections	14%

Source: Ponemon Institute

BUYING TIPS:

Antivirus & Security Appliances

by Marty Sems

• • •

YOUR NETWORK not only needs security, but also protection from the volume of traffic represented by malware. The more garbage that you can stop at the perimeter, the less infrastructure your organization must maintain just to accommodate legitimate traffic among employees. Business continuity and the dangers of intellectual property and brand reputation loss are other reasons to deploy anti-malware resources.

Turn to turnkey. Convenience and speed favor turnkey hardware solutions managed by the vendor. Antivirus appliances are the most basic, although most provide additional features beyond mere Trojan, worm, and virus protection. These defenses should work both ways, too; outbound protection can preserve your company's reputation by stopping the inadvertent spread of malware by an employee or contractor.

Bonus features. Common "bonus" features include protection against spam, phishing, and DoS attacks, as well as stopping usage of unauthorized applications such as new Web apps. Appliances with limited functionality may be designed to integrate with other security measures, such as DLP systems and search engine image filters, but at the very least they should in no way interfere with other equipment.

Target market. Antivirus appliances are often sold by the number of users and connections they support. Another key point is a device's antivirus throughput speed. Depending on the vendor, an AV appliance may or may not entail additional costs such as per-user and/or subscription fees.

Get unified. Fortinet suggests that you consider not just an AV appliance but a more comprehensive system for your security needs. Chris Simmons, director of product strategy, says, "The industry is moving away from AV-only appliances, because today's threats are more blended (i.e., coming in from social media, email, poisoned documents, and thumb drives)." Simmons says the industry is moving toward more multipurpose/multifunction devices, also referred to as UTM, or unified threat management. UTMs, he says, "need to integrate firewall, VPN (IPsec/SSL), and antivirus, while at the same time block malware/greyware and spam and be able to provide intrusion prevention, Web content filtering, and application control." P

Buyers' Checklist

As you research your security hardware purchase, Chris Simmons, director of product strategy at Fortinet, recommends you assess the following:

- **Features.** What features are available through the device? In particular, does an appliance focus on traditional antivirus, or does it have some or all of the security features of a UTM?
- **Cost.** What are the cost benefits of deploying a fully integrated UTM security solution from one vendor vs. taking a multivendor/multiappliance approach to comprehensive security?
- **Time to install.** How fast can an appliance effectively be put into place?
- **Support.** What support options are available from the vendor? Does the vendor have a dedicated group of threat researchers who are always capturing and dissecting the latest threats and software vulnerabilities?
- **Change management.** How easy is it to apply network changes when new threats emerge?
- **Reporting.** What reporting is available to demonstrate the solution's effectiveness?
- **Scalability.** Can the solution scale to meet your evolving networking environments?
- **Updates.** How will the vendor deliver updates to installed appliances? Timeliness and frequency of signature updates can be significant factors when zero-day threats emerge.

Key Terms

Appliance. A standalone system designed to provide a specific service, such as network anti-malware protection, with minimal administrator interaction. An appliance is a turnkey solution preconfigured with its own OS and software.

Blended threats. Attacks that make use of a number of vectors to gain access to a system.

DLP (data loss prevention). A technology that safeguards sensitive information from unauthorized or insecure transmission outside the network.

IPS (intrusion prevention system). Detects, thwarts, and logs hack attempts.

UTM (unified threat management). Combines a number of security tools, including firewall, antivirus, VPN, IPS, content filtering, application control, and SSL content inspection.

VPN (virtual private network). An encrypted communications link between a remote user and the organization's network. Many antivirus and unified threat management appliances support VPNs using protocols such as IPsec (Internet Protocol Security) and SSL (Secure Sockets Layer).

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IDENTITY AUTOMATION
ACCESS REQUEST MANAGEMENT SYSTEM

NEW PRODUCT

by Rod Scher

Control Access To Your Systems

TWO OF AN ENTERPRISE'S most pressing concerns are security and efficiency. The two are related, and Houston-based Identity Automation can help with both.

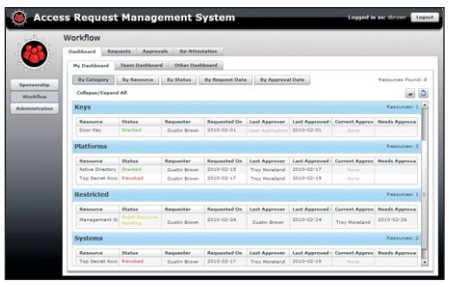
The company's ARMS (Access Request Management System) identity management tool consists of four modules aimed at helping companies manage identity and access in environments ranging from simple to complex. The Account Management, Group Management, Sponsorship, and Workflow modules are distinct and freestanding but work well together for users who require all four functions.

"Identity management is crucial for organizations to ensure compliance by automating data access controls and ensuring account removals when a person leaves an organization," says Identity Automation CEO James Litton.

Identity Automation's identity management solution takes feeds from authoritative systems such as human resources or student information applications and makes appropriate changes (including account creation or deletion and group changes) in connected systems.

"Our end-user tools make the user interface to this system for functions such as password self-service very easy and a pleasant experience," Litton says.

Access management is especially important when required by regulations such as HIPAA and Sarbox. But there are also other drivers, Litton says. "Public customers are usually driven by the need to scale. A good example is a school district which is cash poor but has increasing demand for services from students and parents and no budget to hire staff. In these cases, they need an identity management system to automate a function that would require a tremendous amount of manpower to manage manually."



Identity Automation
Access Request Management System
A suite of identity management modules that can simplify the process of controlling access to systems.

Managing identities and controlling access to resources can be complex, especially when multiple systems are in play. Identity Automation offers a suite of tools to consolidate and simplify the task of controlling access to your systems while making efficient use of resources.

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SECURITY PRODUCT SPOTLIGHT

Antivirus Appliances

	Barracuda Spam & Virus Firewall	Barracuda Web Application Firewall	Cisco IronPort C-Series Email Security Appliance
Product			
Description	The versatile, do-it-all Spam & Virus Firewall appliance from Barracuda Networks uses a multilayer approach to content filtering, with three layers dedicated to virus blocking alone. The Spam & Virus Firewall alleviates strain on the network and mail servers by winnowing out unwanted content ahead of time. • Supports up to 100,000 users with per-user customer filtering policies • Available in eight models • Speeds up recipient verification in Exchange and Domino environments • Protects against phishing and DoS attacks • Updates are provided by Barracuda Central, a 24/7 security operations center that continuously monitors and blocks the latest Web-based threats **Best For:** Enterprises, midmarket organizations, and service providers. **Price:** Starts at $699 with no per-user or other licensing fees	The Barracuda Web Application Firewall brings comprehensive security functions into a single enclosure. It's capable of stopping hack attempts, outgoing data theft, digital vandalism, DoS attacks, and more. Barracuda claims that its Web Application Firewall not only safeguards Web applications and services but can also stabilize them and improve their performance. • Supports SSL acceleration and offloading plus secure HTTP • Intuitive interface • Supports granular policymaking • Load balancing • Fights against such threats as cross-site scripting, SQL injection flaws, OS command injections, site reconnaissance, session hijacking, application denial of service, malicious probes and crawlers, cookie or session tampering, path traversal, and information leakage. **Best For:** Enterprises, midmarket organizations, and service providers. **Price:** Starts at $4,999 with no per-user or other licensing fees	The IronPort C-Series Email Security Appliance line from Cisco provides advanced threat prevention, spam and virus blocking, and corporate email policy enforcement, as well as phishing protection. Models range from the affordable C160 for SMEs to the high-end C670 for ISPs and large enterprises. • Shares the same code base with Cisco IronPort's top models • Provides mail system perspective as it frees up IT staff • Features centralized management and an intuitive GUI • Protects from spam with IronPort Reputation Filters and IronPort Anti-Spam • Enforces policies with content filters and IronPort email encryption • Uses antivirus software from Sophos and McAfee **Best For:** Enterprises of all sizes that need reliable spam and virus protection. **Price:** Starts at $7,000

	Panda GateDefender Performa	SonicWall NSA 3500	Sophos Email Security & Data Protection
Product			
Description	The GateDefender Performa from Panda is a family of all-in-one secure content management appliances that delivers high-performance Web filtering and perimeter protection against Internet-borne malware and spam. The company says that HTTPS scanning will become available in the next version. • IM/P2P application and content filtering • Scans commonly used HTTP, FTP, SMTP, IMAP4, and NNTP Internet protocols • Profile-based user policies integrate directly with LDAP and Active Directory • Secure quarantine for malware, inappropriate content, and spam • Low resource consumption improves performance and usability • Prevents loss of traffic in the event of failures or incidents **Best For:** Enterprises of all sizes. **Price:** Starts at $1,899	The SonicWall NSA 3500 is a fully integrated deep packet inspection firewall that's designed for speed and easy deployment. It's outfitted with file and content inspection, application intelligence, and intrusion prevention features. SonicWall designed it to accommodate a variety of configurations and advanced networking needs, the company says. • Quad-core processing power • Six 10/100/1000 Gigabit Ethernet ports • Includes gateway antivirus, antispyware, intrusion prevention, and application intelligence for perimeter and internal protection • Features multi-WAN support, ISP failover, and WAN load balancing **Best For:** SMEs, distributed environments, and branch offices. **Price:** $3,395	Featuring tough security software that's housed in a Sophos Email Appliance, the Email Security & Data Protection solution from Sophos provides anti-malware with a bit of muscle. The system protects the entire email infrastructure—from gateway to workgroup—from spam, phishing, malware, and unwanted applications. • Innovative spam, DLP, and phishing protection • Includes Sophos' Behavioral Genotype malware engine to protect against even zero-day threats • SPX data encryption • 24/7 tech support • Appliances available for up to 550,000 messages per hour • Updates automatically as frequently as every five minutes **Best For:** Enterprises of all sizes. **Price:** $27.25 per user (one year, 500 users); appliance sold separately (75-user minimum)

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Marty Sems

Fortinet FortiGate-200B-POE

Performance, purpose-built processors, and a paucity of per-user pricing are the points to ponder with this PoE (Power over Ethernet)-capable gateway. The FortiGate-200B-POE can handle up to 500,000 concurrent sessions. It also boasts firewall throughput of up to 5Gbps, eight Gigabit ports (four of which are hardware-accelerated), and eight powered 100Mbps ports.

- Power over Ethernet support for up to eight WAPs
- Security zones by devices, access methods, users, and entire departments
- Modular interfaces
- Antivirus throughput of up to 95Mbps
- Consolidates multiple standalone security tools, providing lower operating and capital costs
- Integrates wired and wireless security policies to improve policy compliance

Best For: Small and midsized enterprises.

Price: $3,495

Fortinet FortiWeb-1000C

The FortiWeb-1000C Web security appliance from Fortinet supports XML security enforcement as well as server load balancing and app acceleration. The FortiWeb-1000C also speeds up deployment of Web applications, Fortinet says, while protecting data privacy and facilitating regulatory, HTTP RFC, and PCI DSS 6.5/6.6 compliance.

- Supports up to 27,000 transactions per second
- Four copper Gigabit ports
- Independent SSL and XML encryption co-processing
- Supports up to 2TB hard drive (1TB included)
- Protects from cross-site scripting, SQL injection, buffer overflows, file inclusion, denial of service, cookie poisoning, and schema poisoning

Best For: Midsized and large enterprises, SaaS providers, and ASPs.

Panda GateDefender Integra SB

Panda says that its GateDefender Integra SB is a unified perimeter security device that's easy to install. Right off the bat, it starts to provide protection for small and branch offices against a variety of threats, both network-level and content-based, through a single, simple interface.

- Provides firewall, IPS, and VPN services
- 400Mbps firewall throughput
- Protection modules include Anti-Malware, Content Filter, and Web Filtering
- Rules and fingerprints are automatically updated every 90 minutes for malware, IPS, and Web filtering and every minute for spam
- Real-time monitoring and graphic reports on protection activity
- Offers optimum performance without negatively affecting network speed
- Provides complete graphical reports on detection of spam, viruses, and any inappropriate content it blocks

Best For: Small businesses with fewer than 50 users.

Price: $1,899

Sophos Web Security & Control

The Sophos Web Security & Control offering is an antispyware and antivirus gatekeeper as well as a network policy enforcer and intelligent data loss prevention tool. Like the company's Email Security & Data Protection Appliance, this hardware solution brings Sophos' Behavioral Genotype engine to bear on malware of all kinds.

- Can filter encrypted HTTPS traffic
- URL filtering policy wizard lets admins restrict employees from accessing risky sites and blocks millions of infected sites across all categories
- Blocks the use of anonymizing proxy servers to bypass security
- Flexible deployment options such as explicit proxy, WCCP, and transparent mode
- Features an intuitive Web-based console

Best For: Large enterprises, smaller organizations, and branch offices.

Price: $27.50 per user (one year, 500 users); appliance sold separately

Vircom modusGate m100

The modusGate m100 from Vircom is an inbound and outbound email scanner that can detect zero-day threats thanks to its Sequential Content Analyzer feature and continual antivirus/antispam updates. It can scale to the needs of up to 1,000 users and any number of domains.

- Capacity of up to 4 million daily messages
- Dual Gigabit Ethernet connectivity
- Windows 2003 Server and SQL Server 2005 Express
- Compact 1U mini form factor
- Offers advanced reporting, compliance tools, an intuitive interface, high performance, granular security, and access control for inbound and outbound messages
- Integrates seamlessly with Microsoft Exchange, Lotus Domino, and Novell Groupwise

Best For: Small to midsized enterprises and ISP and email services.

Price: Starts at $4,180

Vircom modusGate m150

The Vircom modusGate m150 antivirus and antispam device can extend its coverage to up to 2,500 users and unlimited domains. It's capable of working with network loads of up to 5 million messages on a given day. The appliance is easy to install, configure, and use; most installations can be completed in less than 10 minutes, the company says.

- Powered by a 1.8GHz Intel Core 2 Duo 4300 processor
- RAID 1 storage drive mirroring
- Features three levels of granularity for maximum customization of user and administrative settings
- Complete inbound and outbound email scanning
- Real-time spam and virus definition updates require no involvement on the part of the user

Best For: Midsized enterprises, small to medium-sized ISPs, and hosting and mail service providers.

Price: Starts at $5,045 including Windows Server license and 50-user Vircom modusGate software license

News

Study Looks At Employee Complaints About Security

Do your employees criticize what they see as overly restrictive network security policies? Have you ever complained about not being allowed unfettered Internet access at work?

You're not alone. According to a recent Robert Half Technology report, such complaints are not unusual. John Reed, executive director of Robert Half Technology, says that 29% of surveyed CIOs say that it is "somewhat common that they had people in their organizations who were complaining about or frustrated with their IT security policies."

Of course, the battle between IT staff trying to guarantee security and other employees trying to get their jobs done has raged for years. So when the two butt heads, how does one decide which one has priority? After all, security is of paramount importance, especially in these days of data breaches, malware, and identity theft. But what good is keeping your company secure if your employees can't get their jobs done?

The Business Case

It comes down to business cases. The real question, says Reed, is: "Does allowing the user the ability to access . . . restricted sites pose a security threat to the organization or to their data? If the answer to that is yes, then typically that's the way it's going to go. At the end of the day, allowing employees to access certain information via the Web can enhance productivity, but if it creates more angst around maintaining the security of the network, the data, and the corporate information, that's kind of the deciding criterion."

Generally, the only way to handle such a conflict is to enforce a policy that requires the presentation of a business case from the employee—even, Reed says, if that employee happens to be the CEO or another high-ranking executive.

"Typically," Reed says, "what happens is you make your business case—here's why we want access to these sites—and if it makes business sense, and it doesn't pose an increased security threat, you can come to some sort of arrangement."

Some sort of compromise might come out of such a discussion: Perhaps a separate network? Or access granted only to a select group? However, according to the Robert Half Technology poll, almost all respondents indicate that a compromise would only be possible if the CIO could be guaranteed that it would not create security issues for the organization.

by Rod Scher

SECURITY

SIX QUICK TIPS

Protect Data Center Equipment

Keep Your Assets Safe

by Sixto Ortiz Jr.

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Data centers, and the equipment housed within, are some of the most valuable assets in most organizations. That should come as no surprise; organizations today are more dependent than ever on technology to support their operations, so the data center—and the equipment within it—comprises the IT nerve center for most enterprises.

Given its importance, protecting data center equipment from all sorts of threats is priority No. 1 for data center administrators. There are numerous threats that can compromise data center equipment and bring a business to its knees. Fortunately, administrators can take numerous steps to protect their valuable data center assets and keep their organizations free from unwanted downtime.

Complement Technology With The Human Element

One of the biggest challenges for data center administrators is keeping equipment safe from physical security threats such as theft, sabotage, and unauthorized access. All of the greatest network protection technology is no good if data center employees neglect to do the basic "blocking and tackling" in terms of asset security.

In terms of protecting assets from physical threats, there are very good technologies out there, including multimodal biometrics, video analytics, advanced locking and interlocking systems, and secure credentials, says Elliot Boxerbaum, CPP, CSC, and president and CEO of Security Risk Management Consultants (www.s-rmc.com). But, he warns, if these technologies are not designed, installed, maintained, and managed properly, they are of little use. In fact, Boxerbaum says, poorly designed technologies can create a false sense of security and even increase the potential for security breaches.

Security technologies, Boxerbaum says, are only one piece of a comprehensive security solution. Administrators should choose technologies based on a risk assessment; in addition, he adds, organizational policies, procedures, and processes must complement technology and ensure operator and end-user compliance.

Another key aspect for implementing an effective security system is the human element: Security program management, Boxerbaum says, must engage each data center staff member. Security is not the responsibility of the security staff, but the responsibility of the entire organization. At the end of the day, he adds, technologies have their weaknesses, and at some point in time, they will fail or be compromised. Organizations that rely too heavily on technology-centric solutions are more likely to be at risk than those embracing a holistic physical security management process.

Consider The Airflow

Airflow and temperature control in the data center go hand in hand: Improper airflow leads to ineffective heat removal from operating equipment, which in turn can cause equipment to perform poorly, malfunction, and even fail completely.

Jean-Paul Daemen, CEO for Uptime Devices (www.uptimedevices.com), says around-the-clock air monitoring is vital for data center protection and performance. Although monitoring data center conditions manually on a fixed schedule can be effective, this is no substitute for 24-hour protection. In fact, he warns, airflow-caused disasters can happen quickly and without warning, so around-the-clock monitoring is the only surefire way to receive a warning and protect a data center from disaster.

Another contributor to airflow problems in many data centers is sloppy cable management, says Ben Fortenberry, information security and technology manager for Group Data Services (www.groupdata.com). The lack of cable management can block airflow through hardware cabinets and ultimately lead to equipment failure, he adds. Unfortunately, cable management appears to be a low priority in many data centers, where troubleshooting a problem more often than not means spending hours tracing cables through a huge, tangled mess.

Keep An Eye On Networks & Systems

Besides physical threats, there are also numerous virtual threats to data center integrity. Data centers house lots of complex hardware that is used to host and run even more complex software. Adding networking to the mix only serves to complicate matters even more. The fact is, data centers are very sophisticated ecosystems that unfortunately contain numerous opportunities for unexpected failures.

In fact, Fortenberry says, the majority of issues that occur with IT resources arise in software and not in hardware. Having a network monitoring solution in place and understanding how to properly configure and maintain the system is critical to any data center operation, he adds. Administrators should spend the time up front defining what systems, services, or events need to be monitored and how alerts will be issued and handled, he says.

Most Practical Tip:

Invest In Your UPS

Data center administrators should invest in a good UPS infrastructure, says Carl Hillier, director of strategic marketing for Information Technology Services at Fujitsu America. The UPS is the last line of defense between equipment and the power grid, so securing a good UPS infrastructure will ensure that equipment is continually provisioned with an appropriate amount of power suffering from no spikes and undesirable fluctuations.

Best Tip:

Buy Green To Improve Reliability

Fujitsu's Hillier says administrators should factor energy efficiency into all equipment procurement processes. Using equipment that consumes less power and requires less cooling, Hillier says, results in equipment cooling fans that don't have to work so hard, thus leading to increased equipment reliability and lifespan.

But, it is also important for administrators to avoid the temptation to monitor everything. The purpose of the monitoring system, he says, is to alert administrators of any outages or events taking place on critical systems and not to constantly cry wolf. In addition, Fortenberry says, most network monitoring software provides Web-based training at no cost, so administrators should make the effort for staff who will manage and maintain the system to attend formal training classes offered by the vendor.

Maintain Documentation

Ignorance might be bliss in most cases; however, ignorance in the data center definitely doesn't lead to bliss, especially when it comes to understanding what expensive assets are in place and how to best protect them. After all, how can personnel protect what they don't know they have?

Surprisingly, Fortenberry says, even though documentation is one of the most critical components in determining how equipment should be protected, it is often one of the lesser priorities for administrators. Having documentation readily available, he adds, significantly reduces the amount of time required to plan changes and troubleshoot issues that may occur on a daily basis. It is also a critical component required to recover in the event of a disaster.

Fortunately, he adds, there is a myriad of tools available to assist with creating documentation without too much effort. For example, tools for doing asset discovery, management, and inventory are plentiful and run the gamut from simple and cheap to complex and costly. P

BONUS TIPS

■ **Invest in a managed security offering.** Carl Hillier, director of strategic marketing for Information Technology Services at Fujitsu America, says administrators should strongly consider investing in a managed security offering so they can partner with organizations that have expertise in this area.

■ **Use auditable controls.** Hillier says that administrators should also implement auditable security access controls, such as biometric readers on doors, avoiding using the same locks on equipment racks and other infrastructure.

SECURITY

FEATURED PRODUCT

Crack The Code

Elcomsoft's Advanced Office Password Recovery Resurrects Lost Or Forgotten Passwords

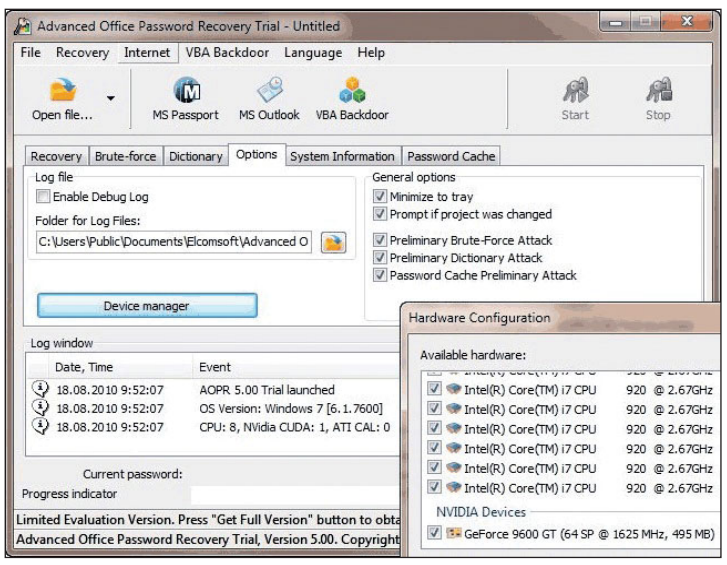
by Robyn Weisman

• • •

With all the focus on security solutions, you rarely hear about password recovery. Much of it may be due to embarrassment—to many, losing a password is akin to locking yourself out of your car. How could you be so foolish to shut the door without making sure you had the key? And how can you get in again without a spare?

Fortunately for those with lost passwords, Moscow-based Elcomsoft (www.elcomsoft.com) has developed several solutions that act as password locksmiths in such situations. Most recently, the company has updated its AOPR (Advanced Office Password Recovery) software to Version 5.0, adding Microsoft Office 2010 support among other features. It comes in two SME-ready versions: Standard ($99), which supports up to four CPU processors and a single GPU processor, and Professional ($249), which may be used on an unlimited number of CPU and GPU processors.

Both versions support Windows and Windows Server from WinXP on. They also offer extensive technical support and a year's worth of free upgrades. "We are constantly improving our software, so that means [you get] support of new password recovery hardware and support of the latest versions of Microsoft Office and Windows during that year," says Katerina Korolkova, PR director at Elcomsoft.



Elcomsoft's Advanced Office Password Recovery can help SMEs regain access to files locked by long-forgotten passwords.

Brute-Force Power

AOPR's job is to unlock any encrypted Microsoft Office document, from Office 2.0 to the latest version. It uses brute-force attacks, highly customizable dictionary attacks, and leverages all known back doors and tricks to recover encrypted documents. "In this latest edition of AOPR, we have added computer forensics technologies that were only available in our high-end solutions, like Elcomsoft Distributed Password Recovery for investigative agencies, large corporations, and governments," Korolkova says.

These technologies include guaranteed (and in most cases, instantaneous) retrieval of passwords of files using 40-bit encryption through Elcomsoft's proprietary Thunder Tables. Thunder Tables works by helping when brute force is needed to salvage a password, says Andrey Belenko, security researcher, CISSP at Elcomsoft. "It contains an additional file that lists all keys for which Rainbow Table (a lookup table used in password recovery) fails," he says. In other words, if the password you are trying to recover is the one in 100 that doesn't respond to a Rainbow Table attack, Thunder Tables lets the brute-force component of AOPR see which keys have already been tested, so that it doesn't waste time trying the other 99% of incorrect keys.

In addition, Elcomsoft's patent-pending GPU acceleration algorithm helps AOPR 5.0 to crunch passwords up to 50 times faster than the previous version by putting to work multiple CPUs and by offloading resource-intensive computations onto GPUs. "We can use up to 32 CPUs and up to 32 ATI or Nvidia boards . . . with zero scalability overhead," Korolkova says. AOPR also allows for simultaneous CPU and GPU operation, further boosting password recovery speed.

"This is especially important for Microsoft Office 2007 and 2010 documents because Microsoft has significantly strengthened password protection algorithm in these versions," Korolkova says.

Easy To Use

AOPR may be powerful, but it isn't complicated. Korolkova explains that after it is installed, you choose the files you need to recover and set your preferences. "You can decide how many CPUs or GPUs you want to dedicate to the task so that it does not interfere with your other processes," she says. "You can also customize character sets for a particular recovery process, include passwords and rules you typically use within your organization, and so on."

Once you have tweaked your settings to fit your needs, just click the Recover button. AOPR starts by trying to open the targeted files with passwords that were already found and stored in a cache. "This is helpful, as people often use one and the same password for different documents. Files with 40-bit encryption, such as [Office] 97, [Office] 2000, and older files saved in compatibility mode in later versions, are recovered instantly," Korolkova says.

And AOPR can find different types of passwords that a Microsoft Office document could use, including passwords to open or modify, document protection passwords, and VBA (Visual Basic for Applications) project passwords. Even if a project uses a password that, say, uses non-English characters that are unavailable on your keyboard, AOPR can crack it using its VBA Backdoor feature. Rather than recovering the password, this feature enables you to open a VBA project, view its contents, and edit its code.

Avoiding The Password Trap

Korolkova points out that a majority of SMEs create documents in various Microsoft Office applications, and these files often flow between departments and are stored in shared directories, with some file access privileges limited to certain managers. "Most companies today understand the importance of a strong password policy, but they can fall into their own trap," Korolkova says. "If you require that your employees use strong passwords, there is always an opportunity that they will forget them sooner or later."

According to Korolkova, many of Elcomsoft's customers complain that employees frequently forget passwords after going on a vacation. In addition, there will always be certain documents that are rarely accessed and, as a result, are locked with passwords that no one can seem to recall.

"When you don't enter a password at least once a week, you will probably lose or forget [that password]. The human factor is an important issue here, and AOPR is designed with that in mind," Korolkova says. P

Elcomsoft Advanced Office Password Recovery

(866) 448-2703
www.elcomsoft.com

Description: A password recovery tool that uses a variety of sophisticated technologies to unlock any Microsoft Office document, often instantaneously.

Interesting Fact: Before Elcomsoft switched its focus to password recovery, it created Advanced Disk Catalog, a utility that helps users keep track of music, video, and other files.

News

Climate Corps Fellows Uncover Energy Savings Possibilities

Companies such as eBay, McDonald's, Pepsi, Target, Verizon, and Xerox received a little help this summer from trained MBA students looking to find opportunities for energy savings. The Environmental Defense Fund's Climate Corps program aims to give students a chance to help companies develop practical, actionable energy efficiency plans to reduce energy usage and costs while incorporating energy efficiency as a standard practice.

"Companies know that energy is costly, but many lack the resources to quantify the financial and environmental impacts of their energy usage. EDF Climate Corps bridges this resource gap," says Rachel Hinchliffe, Climate Corps project manager, Environmental Defense Fund. Hinchliffe says that since the program's start three years ago, Climate Corps fellows have found potential cost and carbon savings for companies totaling $439 million and nearly 1 billion kilowatt hours of annual energy savings.

This past summer, 51 MBA students were involved in the program, up from just seven students the first year. Hinchliffe credits the program's growth to the "tremendous value" of hiring well-trained MBA students who have the ability to uncover hidden opportunities to save on energy consumption. The students are hand-picked by the team and matched with an interested company based on skill set, geographic location, and work-plan content.

Finding Energy Inefficiencies

Climate Corps fellows evaluate possible savings in lighting, HVAC, computer power management, and data centers within an organization. Another important aspect of the program, according to Hinchliffe, is the importance of engaging employees, changing behaviors, and breaking through organizational barriers.

"Fellows serve the company as a fresh pair of eyes to come in and ask 'why?'" Hinchliffe says. "They question simple things that may seem normal to people who work in the facility each and every day." For example, one student from Duke University uncovered a lighting issue at AT&T, in which the company could cut energy use by up to 80% by installing occupancy sensors. Hinchliffe says lighting is one of the major issues found by the students. "The quick fix of these lighting retrofits didn't present itself to every fellow this year," Hinchliffe says. "Fellows have to dig way beyond such obvious low-hanging fruit. No matter how thorough the energy efficiency efforts of a company are, the Climate Corps fellows prove successful at finding hidden opportunities."

Remarkably, Hinchliffe says 84% of the recommendations made by Climate Corps fellows are in progress or have already been implemented.

by Antona Beckman

News

Study Looks At Smartphone App Use

Applications may be a big selling point for some smartphone manufacturers, but there appears to be a knowledge barrier between users and their devices. A new Pew Internet survey revealed that although more than one-third of U.S. adults (35%) have apps on their smartphones, just one-fourth of them (24%) actually use those apps. About 11% of mobile phone users are unsure whether their phone supports apps, according to the survey. The most popular mobile phone activities include taking photos, sending or receiving text messages, and accessing the Internet, which 76%, 72%, and 38% of those surveyed performed at least once. Just 29% claim to have used an app on their device. The average user has 18 apps on their smartphone.

Semiconductor Sales Climb

iSuppli released some impressive semiconductor market figures for the second quarter. According to the firm, industry sales climbed 34% compared to the same period last year, although the demand for PCs at that time was at an historic low. The PC industry has recovered to the tune of 22.8% compared to Q2 2009. Intel and AMD's market shares changed little. Intel maintained a commanding lead with 80.4% of the market (down from 80.7% in Q2 2009) and AMD's 11.52% share for the current quarter was only marginally better than the 11.48% share it claimed in Q2 2009. Processors with integrated graphics were installed in 38% percent of the notebooks shipped in Q2. Both AMD and Intel recently previewed their next-generation GPU/CPU hybrid chips—AMD's from its soon-to-be-launched Fusion brand and Intel's with the codename Sandy Bridge.

Senate Committee Explores Updates To ECPA

The U.S. Senate Judiciary Committee held a hearing in late September to explore updates to the ECPA (Electronic Communications Privacy Act), which was enacted in 1986 to protect against monitoring or intercepting digital communications by the government in real time. The ECPA has been amended many times since, but there have been no comprehensive reforms to the act. At issue are the major advancements communication technologies have made over the years. Sen. Patrick Leahy, committee chairman and lead ECPA author, says when the ECPA was enacted, the goal was to "ensure that all Americans would enjoy the same privacy protections in their online communications as they did in the offline world" while still giving law enforcement access needed to fight crime. However, "many advances in communication technologies since have outpaced the privacy protections that Congress put in place," he says. Among companies supporting updates are Google, HP, Microsoft, and AT&T.

SECURITY

Purchasing An IDS/IPS

Know Key Features Before You Buy

by Chris A. MacKinnon

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How much would you pay for higher throughput in an IDS/IPS system to make sure it doesn't become a network bottleneck? According to a recent report by Frost & Sullivan, "World Intrusion Detection and Intrusion Prevention Systems Markets," users of IDS/IPS are willing to pay three times as much for that assurance. But before you purchase an IDS/IPS, it's important to know the key features to look for in a system. For example, in addition to throughput, what are other essentials? And where is your money best spent?

A Priority

Robbie Higgins, vice president of security services at GlassHouse Technologies (www.glasshouse.com), says IDS/IPS should be part of any company's security environment, large or small. Higgins says today's network IPS sensors, for example, demand wire-speed performance. He notes, "This is the primary reason why throughput is such a concern, as no one wants inline security controls that negatively affect network performance."

Wade Williamson, product marketing manager at Palo Alto Networks (www.paloaltonetworks.com), says network attacks have steadily become increasingly more diverse, automated, and financially motivated, and it is the core responsibility of the IPS, in conjunction with the firewall, to protect the enterprise from these threats. Williamson adds, "An IPS provides continuously updated intelligence to protect an enterprise from the latest vulnerabilities and threats that can be borne over the network, making it one of the core components of an SME security strategy. In addition to the functional importance of IPS, these solutions can vary widely in terms of functionality as well as price, making it a particularly strategic decision for an SME with limited IT resources."

What To look For

Williamson says before making purchasing decisions, SMEs should actively evaluate an IPS that is integrated as part of a next-generation firewall. He explains, "Next-generation firewalls can detect and control the applications that are used to deliver threats across the network, and by limiting the access of applications to those apps that the business actually needs, SMEs can instantly reduce the exposure of their network to a fraction of what it is today."

As with any IPS decision, Williamson says, SMEs will want to closely research the types of threats the IPS can prevent. "Unlike a larger enterprise that may have separate point solutions for IPS, URL filtering, data filtering, malware prevention, and so on, an SME typically needs their IPS to cover the full spectrum of threat prevention in a single solution," he says. "Additionally, SMEs should look for solutions that understand and control modern threat delivery vectors such as encrypted threats, threats in compressed traffic, and threats hidden in evasive applications, as just a few examples."

Key Points

- Research the types of threats that an IPS can actually prevent. An IPS should cover the full spectrum of threat prevention in a single solution.
- Money is best spent on next-generation firewalls that integrate IPS and firewall functions.
- When purchasing an IPS, consider accuracy or, in other words, the false-positive and false-negative rate.

> "An IPS provides continuously updated intelligence to protect an enterprise from the latest vulnerabilities and threats . . . making it one of the core components of an SME security strategy."
>
> *- Palo Alto Networks' Wade Williamson*

Tom Newton, product manager at SmoothWall (www.smoothwall.net), says before you purchase, look for good reporting. "In some respects, the power of data collection provided by IDP (intrusion detection and prevention) is also its downfall. Producing vast swathes of logs is fine, but if you can't filter and morph this raw data into clear, succinct information—which can be used as a basis to draw conclusions from—it's useless," Newton explains. "Whether it is confirmation that the traffic on your network is everything you expect it to be, or signs of malicious behavior requiring administrative remedy in the form of firewall rules, malware removal, and patching required, the raw data alone does not give much in the way of usable evidence for action."

Newton says another important feature to consider is a rule set that provides good protocol and traffic-type coverage. He elaborates, "At the heart of any IDP system is the rule set or signatures, comparable to how an antivirus application has signatures and pattern detection for recognizing malicious code and activity on disk and in memory."

Beyond Throughput

Signature quality remains one of the key features beyond throughput for most customers when it comes to key requirements. According to Higgins, organizations seeking best-of-breed protection will shortlist based on high protection quality, which includes signature quality, as well as capabilities for detecting and stopping new threats. He adds, "Smaller organizations facing different challenges due to tighter budgets and fewer resources will look for capabilities that provide basic protection and best-in-class signature quality; while important, these features might not be next on an organization's list, hence they will seek out the second tier of signature-quality products."

Ron Meyran, director of security products with Radware (www.radware.com), says a key point to consider is IPS accuracy, or in other words, the false-positive and false-negative rate. "This is not a direct measurable characteristic," Meyran notes, "but requires careful analysis of the technology an IPS relies on in conjunction with third-party reports."

Money Well Spent

Meyran says SMEs should focus their spending on outsourcing rather than on in-house IPS solutions. He comments, "Although obtaining an in-house IPS requires building expertise and human resources to manage and analyze the logs, as well as keeping best security practices, today, service providers offer managed security services that include IPS and DoS protection and thus can help companies manage these systems. This has an advantage of overall simplicity, scalability, and cost management. It only requires selecting the right partner to manage and protect your IT assets."

According to Williamson, next-generation firewalls offer the core application visibility and control needed to reduce the attack surface, see all threats, and provide threat prevention that includes and goes beyond traditional IPS to include malware prevention, antivirus, file blocking, and URL filtering. "By rethinking network security and focusing on control of applications, users, and content," says Williamson, "next-generation firewalls provide a single box that is both cost-effective, while providing an unmatched level of protection from threats." He says other attempts at consolidation just collapse traditional network security functions into a single box, providing an inexpensive but ineffective solution. P

NBA All the Way

Typical IPS solutions rely on static signature detection technology with periodic updates to prevent known application vulnerabilities. However, according to Ron Meyran, director of security products with Radware (www.radware.com), attackers are using new techniques to misuse application services and server resources that do not exploit application vulnerabilities. He explains, "To prevent the emerging types of attacks, your IPS vendor should embed NBA (network behavioral analysis) technology in conjunction with traditional signature detection. NBA creates baselines of normal user, application, and network behavior and can block attacks in real time by detecting abnormal traffic patterns."

Email Retention

Tips For Implementing Policies & Procedures To Avoid Potential Legal Issues

by William Van Winkle

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If there remains any doubt about the critical need for proper email retention by enterprises, consider the case of Jane Doe v. Norwalk Community College. Jane Doe was a college student who alleged that a teacher had been making sexual advances toward her. Emails about the accusations flew about the faculty starting in February 2004. In November of that year, the student sued the college. Long story short, the student hired a computer forensics expert who found that the college had destroyed 500 emails from a key teacher during the sensitive time period. The college tried to explain the data omissions but could not persuade the judge. In the end, the judge not only called the school "grossly negligent," but also declared that when the case went to trial the jury would be told of the school's actions meant to thwart the student's case. Final settlement in 2008: The college was ordered to pay a $765,000 fine plus provide employees with training on harassment.

Norwalk was not an isolated incident. Just last May, the FINRA (Financial Industry Regulatory Authority) fined Piper Jaffray $700,000 for failure to retain 4.3 million emails throughout the past decade. This followed a different email retention fine against Piper Jaffray by the SEC in 2002. There was no criminal activity, only a failure to comply with industry regulations.

"There have been cases where companies have been fined literally millions of dollars for failure to produce evidence or comply with regulations," says Michael Osterman, president of Osterman Research (www.ostermanresearch.com). If you happen to be involved in a legal case and choose not to comply with regulations, and a judge says you should have had this information, he could tell you not to worry about it or he could advise members of the jury to be aware that you don't have access to this information and to assume that you are culpable.

Planning An Approach

There are many ways to address email retention. "The very first thing enterprises need to do is sit down with their legal counsel," says Rick Wilson, senior product manager at Sherpa Software (www.sherpasoftware.com). "They will have the most in-depth knowledge of your particular industry—what requirements might apply to you and the penalties you might face. A lawyer will help you come up with a checklist of what must be considered and addressed before you start shopping."

Key Points

- Failure to comply with email retention regulations and legal expectations can result in very large fines.
- Seeking legal counsel to help formulate effective email retention policies is a critical first step that should precede the purchase of any retention system.
- Whether an enterprise opts for a hosted service or on-premises retention, the solution should address scalability and search accuracy needs.

Legal counsel will guide enterprises through creating retention policies focused on the kinds of information to be kept, any regulatory requirements, the retention duration, current courtroom expectations regarding e-discovery (recovery of electronic information), and so on. After agreeing on a policy list, then you'll need to pick the technologies and architectures best able to enforce those policies. Osterman says this enforcement needs to span the entire enterprise and all its systems. If a policy specifies retention for two years and a court discovers employees are retaining messages indefinitely on their desktops, he explains that the judge may find the business negligent in following its own policies and feel justified in demanding files dating back five or six years.

> "There have been cases where companies have been fined literally millions of dollars for failure to produce evidence or comply with regulations."
>
> *- Osterman Research's Michael Osterman*

"I believe that in today's litigation environment that enterprises are wise to keep their email—especially of important executives—for a pretty generous time," says Ben Wright, an information security attorney and instructor at the SANS Institute. "Seven years is not a bad idea. But it's not a hard-and-fast rule, and different people have different viewpoints about that."

Failure Points

Some enterprises will skip that first step of involving legal counsel and proceed straight to shopping. This often results in incomplete policies and lack of understanding about retention requirements, which in turn leads to the purchase of the wrong system.

"One of the big issues today is that a business will use a system that wasn't designed for archiving for a significant period of time," says Wright.

Which retention approach makes sense for an enterprise is based in part on how much data it needs to archive. Osterman notes that hosted solutions tend to be less expensive than on-premises options, but for larger enterprises on-premises tends to have better ROI. Very broadly speaking, an on-premises approach will cost about $50 per seat initially plus 20% in annual license fees, plus local hardware costs and the admin time to maintain them. In contrast, hosted services will run from $1 to $3 per seat per month.

However, one potential drawback with some appliances is scalability. Whereas a hosted provider will handle additional storage and data migration transparently, companies opting for appliances or on-premises server options may need to deal with periodically adding additional capacity and the device interface challenges those additions might pose.

Scalability also impacts search performance. Conducting complex searches across 100 million stored messages can be time-intensive, plus enterprises must consider the benefits of paying for more robust, accurate systems. Paying a paralegal or lawyer to manually read through 50,000 search results can cost a fortune, but a better system might return only 500 results that are truly relevant.

Another point that many companies fail to address is deletion policies. "Some companies will just keep stuff around forever," says Osterman. "This creates additional liability. You might have something damaging that's eight years old that you only had to hold onto for five."

Not least of all, companies are still struggling to find retention systems that can reach beyond company walls and into employees' mobile devices, both to archive messaging data as well as destroy on-device data in the event of loss or theft. As Sherpa Software's Wilson says, "Today, most archiving vendors aren't playing at the device level yet." On-phone virtualization and sandbox solutions exist to let companies control employees' business data, but few if any of these products link back into dedicated retention systems. This seems likely to be the next frontier in email retention that enterprises will need to tackle. P

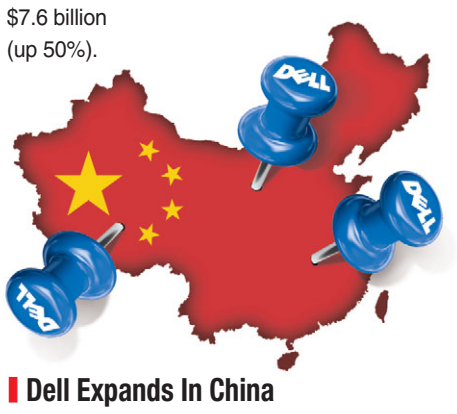
Email Retention Breakdown

According to Osterman Research, 39% of organizations have no policies or systems in place to prevent their employees from deleting business-critical content, while 25% have only policies in place. Only 36% of enterprises back their retention policies with actual systems and policies.

News

Oracle Revenue, Sales Up

The first quarter of Oracle's fiscal year brought higher profits on an annual basis and will lead to a dividend of 5 cents per share to be distributed Nov. 3. Earnings rose 20% to 27 cents per share on a GAAP basis (up 38% to 42 cents non-GAAP). They corresponded with a GAAP net income of $1.4 billion, or $2.1 billion non-GAAP. Software licensing revenues rose 25% to $1.3 billion, and hardware sales beat expectations, the company says. GAAP revenues leaped 48% to $7.5 billion, differing only slightly from the non-GAAP figure of $7.6 billion (up 50%).



Dell Expands In China

Dell will open a new operations center in the Western city of Chengdu, China, as part of a $100 billion investment Dell says it will make in China over the next decade. The manufacturing, sales, and service center could eventually employ about 3,000 workers. Dell currently employs about 6,000 workers in China and spent about $23 billion in the country last year. China's government has been urging foreign investors to develop the Western part of the country as the coastal regions become more expensive. Dell also announced that it will add an office and up to 300 workers at its Xiamen site.

Google Launches Transparency Report

Google is edging its way into the online censorship dispute by introducing its Transparency Report, a tool that lets users see which countries are requesting data on Google users and requesting data removal. The tool features an interactive map where users can view the number of removal requests made by each country, as well as the total amount of online traffic over time. Currently, the United States has submitted 128 requests for data removal, while Brazil has made the largest number of requests at 398. Google says it hopes that the tool will be a "step toward greater transparency," and that it will "help in ongoing discussions about the appropriate scope and authority of government requests."

Federal Agencies Have Weak Safeguards, Says GAO

A GAO study has determined that government departments are not adequately protecting sensitive data from contractors. According to the GAO, several departments, including the Departments of Defense, Homeland Security, and Health and Human Services, have not established adequate safeguards relating to contractor access to sensitive information, in spite of the fact that those departments do have security provisions in place. In addition, says the report, the agencies don't adequately specify contractor responsibilities as they relate to notifying agencies about unauthorized disclosure or misuse of information. Insider access to sensitive data is an ongoing security concern because data breaches often occur through such access.

SERVERS

Of Special Interest To Government Data Centers

Government Use Of Server Virtualization

Security & Funding Challenge Adoption Among Agencies

by Christian Perry

• • •

Although server virtualization continues to spread like wildfire in the private sector, the technology is experiencing a far more sluggish uptake in the public realm. In fact, according to the CDW-G 2010 Government Virtualization Report, only 67% of government agencies are currently implementing server virtualization, a far cry from the 90% of business entities that are doing the same, according to the CDW Server Virtualization Life Cycle Report.

"Government agencies typically aren't as nimble as the commercial space due to budget constraints, certification processes, and different priorities," says Jim Smid, data center practice manager for Iron Bow Technologies (www.ironbow.com). "A fundamental objective of the Federal Data Center Consolidation Initiative is to reduce the overall cost of data center operations and energy consumption by federal agencies. Virtualization plays a key role in realizing this objective, and commercial companies have been quick to realize this fundamental benefit, but government agencies are lagging in funding, training, data center space, and the ability to identify and articulate the benefits in order to change investment priorities."

Other reasons also contribute to government agencies' seemingly slow adoption of server virtualization, but the big picture may not be as gloomy as it initially appears, experts say, because progress is at least occurring to some extent. Due to the unique requirements inherent in federal, state, and local agencies, the wide discrepancy in adoption rates among these agencies and business entities is perhaps no surprise at all.

A Careful Approach

According to Tom Hempfield, vice president of HP's U.S. Federal Business Organization (www.hp.com), government agencies are risk-averse by design and rarely are early adopters of technology. Before newer technologies are implemented, agencies must see that they've been thoroughly proven; after all, the agencies are using public funds and therefore tend to veer toward safe technology decisions that are easier to justify with their stakeholders (including elected officials and citizens).

Key Points

- Issues such as security and funding contribute to the relatively sluggish adoption of server virtualization among government agencies.
- Government agencies at all levels are risk-averse by design, leading their IT personnel to take a careful approach with newer technologies such as virtualization.
- By starting with smaller, lower-risk virtualization projects, government agencies can help their staff grow accustomed to changes.

"One of the primary benefits of virtualization is that it makes information more readily available by pooling IT assets. Some federal agencies are specifically opposed to this, as there may be cross-agency jurisdiction issues where departments must keep information within their department. For example, federal security or intelligence agencies have certain protocols and reservations when sharing records or technology resources with other agencies," Hempfield says.

Renata Budko, co-founder and vice president of marketing at HyTrust (www.hytrust.com), agrees, noting that many government organizations face highly stringent security regulations. These regulations can have complex effects on how data is handled—for example, Budko says that data types that have different security classifications might not be able to co-exist in the same zone or even be visible to personnel lacking the proper clearance. This can differ from commercial private cloud deployments, where company divisions often obtain read-only access to the entire infrastructure.

However, concerns such as data privacy don't necessarily prevent agencies from recognizing the benefits of server virtualization. For instance, one of the largest departments of the California Natural Resources Agency—the Department of Water Resources—is now 90% virtualized and has enjoyed a dramatic reduction in its physical infrastructure, going from 70 server racks to just four. Hempfield adds that virtualization can also boost efficiency to levels that generate significant cost savings for perpetually constrained government budgets.

"Fewer servers and fewer 'machines' to maintain means less support and service [are] required to achieve the same level of processing and data storage. As part of the upgrade process, agencies can also go beyond simply adding virtualization software and look into complementary software that can be used to monitor and manage IT processes. This ensures better server and storage use of their applications, [and it] is more efficient, secure, and leads to less downtime," he says.

Moving The Mindset

Although server virtualization is now a go-to technology for organizations looking to save money, it's ironically money that's also holding back government agencies from adopting virtualization. Nick Combs, CTO at EMC Federal (www.emc.com), says that the governmental funding and acquisition process doesn't allow for rapid change in government IT programs.

"For example, once the private sector decides to invest in new technologies, the process is relatively streamlined compared to the lengthy and extensive funding and acquisition process mandated by governmental purchasing authorities," Combs says. "Also, due to the monolithic IT environments that have been built in most government organizations over the last 40 years, their operations and maintenance costs currently consume most of the resources, and little is left to implement new technology initiatives."

Combs adds that government agencies need to consider the virtualization benefits that have graced the private sector and realize that far more value and efficiency can be realized when the entire IT environment is virtualized. Whereas many government agencies have virtualized only noncritical applications, the private sector is moving beyond Tier 2 applications and is well on its way to virtualizing mission-critical, Tier 1 applications.

Further, the risk-averse culture in government agencies that encourages program managers to think up to 10 years out creates plenty of uncertainty, adds Gunnar Hellekson, chief technology strategist at Red Hat U.S. Public Sector (www.redhat.com). Also, he notes that although the government's technical challenges around virtualization adoption aren't especially unique, the way that agencies acquire space in a data center can differ from other entities. For example, he says that many agencies run shared services shops that provide basic IT infrastructure to groups inside and outside the agency. Customers wait for the shared services providers to migrate, rather than adopting virtualization themselves.

Hellekson encourages customers to start with small, low-risk projects that involve a few noncritical systems, such as test and development systems. "Virtualization can be a very disruptive technology, from a policy and procedure point of view. By approaching these questions at a small scale first, your staff can grow accustomed to those changes. As they get more comfortable managing virtual servers, you can add more workloads to the infrastructure," he says. P

Holistic Risk Management

Virtualization might look pretty on the outside, but government agencies tend to see a hefty dose of risk on its inside. Andrew Hillier, co-founder and CTO of CiRBA (www.cirba.com), says that there's a cost-risk trade-off when consolidating and virtualizing IT environments: As you increase the density, the infrastructure costs go down but the risks go up, primarily due to potential contention between workloads and saturation of resources. For government agencies, these risks can create a barrier to adoption, but a more holistic approach to planning and managing virtualization can help ease the introduction to server virtualization.

"Planning must involve capturing and modeling all of the constraints, not just the basic server models and utilization levels," Hillier says. "This allows environments to be designed and implemented in a way that maximizes efficiency while at the same time conforming to all of the key requirements and constraints, which minimizes risk. Also, the ability to 'scrub' data is very important in government entities, as it allows information to be safely aggregated across organizational and security boundaries. This not only provides a unified view of efficiency, but also enables what-if analysis across larger numbers of servers, which is key to finding the optimal consolidation and virtualization plans."

Key Points

- Multitouch interface-enabled devices are in the early adopter stage now, but experts expect them to catch on quickly.
- Interface design will be important to the efficient adoption and use of the devices.
- Use of the devices will help accelerate the growth in the use, capture, and storage of data.

Multitouch Interface Investigation

Learn About The Interface That's Taking Devices By Storm

BY PHIL BRITT

Multitouch interface, first introduced to the general public in the movie "Minority Report," is solidly in the early adopter phase, serving as a key element in the popularity of the iPhone, iPad, Droid, and similar devices, and could be mainstream in the near future, according to experts.

"It's just like a flat-screen monitor. When you see a [non-flatscreen] monitor today, it looks old and out-of-date," says Lenny Engelhardt, vice president of business development at N-Trig (www.n-trig.com), a company that provides multitouch applications. "The same will be true of multitouch. Now if someone goes to a screen, the first thing that they do is touch it and see if it does anything. Two to five years from now, people will not accept not being able to interact with the screen."

TECHNOLOGY EXPLAINED

While most devices and applications today are geared more toward the consumer, adoption of multitouch interfaces for business applications won't be far behind, according to Jackie Fenn, vice president and Gartner fellow in emerging trends.

"It's part of a larger trend to capture more data," Fenn explains. "The iPad, iPhone, and similar devices all have built-in sensors. Their ability to capture data is very strong." For example, she points to the use of GPS capabilities that are commonplace in multitouch devices.

The multitouch interface screens include all-but-invisible horizontal and vertical wires that are all very sensitive to changes in pressure (such as a finger tap on a screen) and nearby motions (such as the wave-to-move motion seen on many iPad commercials), explains Gary Baum, N-Trig associate vice president of marketing. So by combining the inputs from the different wires, the multitouch devices enable "swipes," spreading fingers apart to zoom in, and similar motions. The multitouch interfaces also enable the user to do in a finger or hand movement what it might have taken several strokes of a keyboard or clicks of a mouse to do before, Engelhardt adds. The faster capabilities on the front end have to be supported on the back end to take full advantage of the enhanced efficiency.

EFFECTS ON APPLICATIONS

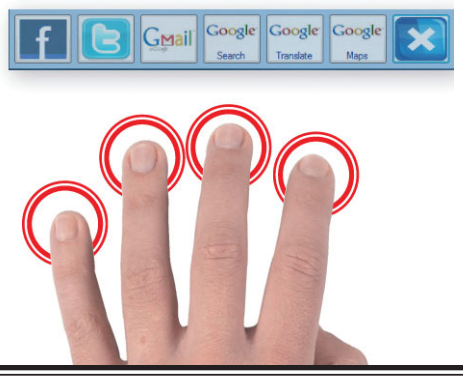
Fenn expects the multitouch interface to "redefine the desktop environment that we've been stuck in for 20 years," she says. "The real surprise there is that it didn't happen sooner." She recommends IT managers plan for this change.

"For many companies, there will need to be a redesign of many of their applications as these devices become more dominant," Fenn says, adding that the application code should be separate from the interface. By keeping them separate, there will be little or no impact—beyond additional data—as a company upgrades to multitouch devices because there would be no need to change the code in the interface function. If, on the other hand, the code and interface are intertwined, IT will need to recode the interface as the devices change.

Future applications will rely more on multitouch interfaces than on the traditional keyboard and mouse interface, according to Alex Moazed, president and CEO of Applico (www.applicollc.com).

However, for business applications, digital keyboards, such as those on the Apple devices, are still going to be used in conjunction with hand gestures to manipulate applications, according to Fenn. She points out that the keyboard interface is still needed for manipulating cells within spreadsheets. However, she suggests that speech recognition capabilities might become more commonplace for companies adopting multitouch interface devices.

Baum adds that new capabilities are being added for multitouch interfaces. Some applications can incorporate inputs/touches from up to four fingers and a stylus. Companies are also experimenting with different technologies, such as infrared lasers, for multitouch interfaces. P



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News

Study Looks At Government Social Media Record Requirements

The NARA (National Archives and Records Administration) recently completed a study observing how federal agencies are using Web 2.0 tools such as social media and then used the findings to recommend policies for handling federal record-keeping therein. The researchers interviewed representatives from six federal agencies and conducted a focus group "jam session" with representatives from more than a dozen other agencies.

Important to the study was determining how agencies are currently managing usage of Web 2.0 tools; for example, the Department of Defense recently released a memorandum on the use of Web 2.0 tools, the EPA explicitly asked that social media information be printed and preserved, and the State Department requires that Web 2.0 records must be maintained with related records or in a records management application.

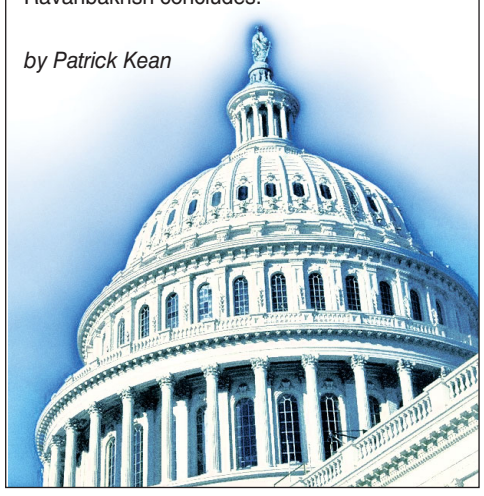
Half of the focus group participants said their agencies had social media policies in place. Some groups, such as the Army and NASA, have policies in the draft phase, and the USGS is operating under an interim policy. According to Arian Ravanbakhsh, electronic records policy specialist with NARA, "Each individual Federal agency uses Web 2.0 for different reasons," which is why different agencies have different record-keeping policies in place. To aid in standardization, Ravanbakhsh says, "NARA is responsible for informing federal agencies what is required in terms of records management and why this is important."

Record-Keeping Recommendations

The NARA study highlights various ways in which Web 2.0 records should be handled. The first step NARA recommends is to clearly outline how the definition of "federal records" applies to Web 2.0 content. In addition, the study clarifies that a large amount of Web 2.0 content is temporary and without permanent value, so NARA may need to re-evaluate its transfer mechanisms to ensure that Web 2.0 records that do have permanent value can be preserved; otherwise, there is a risk of losing the truly valuable materials created by the federal government in Web 2.0 applications. NARA also recommends that government agencies should be proactive in working together to understand the complexities of Web 2.0 use and develop solutions.

Although "only 2 to 3% of content on Web 2.0 platforms is going to be preserved permanently," Ravanbakhsh says, it can't be determined at this point exactly what records will have long-term value. NARA's IT staff must "develop working relationships with their agency records management staff to solve challenges with all types of electronic records, and it is NARA's responsibility to ensure that agencies are aware of the records management implications present with these new technologies," Ravanbakhsh concludes.

by Patrick Kean



CLIENTS

Mobility Management In The Cloud

How To Cope With Smartphone Chaos & Wireless Billing Complexity

by Kurt Marko

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When it comes to smartphones and other handheld gadgets, managers may be in uncharted territory. The emergence of smartphones as a mass consumer product has threatened IT's hegemony over their use at work, replacing a neat, tightly controlled environment with virtual chaos as employees bring their personal phones to work.

Smartphones present several challenges for IT, whether it's trying to minimize security risks from new mobile malware, data loss from such easily lost or stolen devices, or even new support burdens as employees attempt to use Web-based enterprise applications from unsupported mobile browsers. Device heterogeneity only adds to the complexity as proprietary management tools suddenly become much less useful. Enter MDM (mobile device management) software and MaaS (mobility-as-a-service) solutions.

In response to the increasing mobility of today's workforce and the centrality of mobile phones to the nomadic employee's workday, MDM products emerged as an evolutionary extension of earlier TEM (telecom expense management) products used by large IT departments to handle complex phone and data circuit billing. MDM products add features specific to smartphone management, support, and security. Burton Group analyst Jack Santos notes that MDM "includes more than just invoice management, [but] manages the life cycle of mobile phones and services."

Typical Mobile Management Solution Features

According to a summary of the mobility management landscape by Aberdeen Group analyst Andrew Borg, these solutions "enable [IT] to adapt rapidly to new mobile platforms, enforce compliance to IT standards, control access to corporate data networks, and secure mobile endpoints at their points of vulnerability." Borg groups the core features within a mobile device lifecycle framework, specifically provisioning (features such as inventory and data migration); performance (monitoring, configuration, and tuning); operations and support (help desk support and troubleshooting); security (anti-malware and data protection); expenses (usage and bill tracking); and decommissioning (secure device disposal and recycling).

> MDM products emerged as an evolutionary extension of earlier TEM products . . .

Unlike TEM software, which was historically an internally owned and operated IT platform, Santos notes that three deployment options for mobility management solutions have emerged: owned (IT licensed and managed); hosted (externally hosted, but operated by IT); and managed (the MaaS model), with this latter online model becoming the most popular sourcing option.

Key Points

- Mobile devices are fast becoming a core business tool for enterprise users, yet most companies still don't have a consolidated solution to remotely manage and secure them.
- Today's dynamic, heterogeneous smartphone environment requires a purpose-built MDM solution.
- The cloud is a natural fit for MDM and has become the preferred method for delivering solutions. It couples low startup costs and instant delivery with vendor- and carrier-agnosticism, automatic updates, and outsourced platform management.

Befitting of their heritage as expense management products, a strength of most MDM services is tracking and auditing, including the ability to inventory such things as device type, OS, carrier, and end user, as well as summarize billing records, which can be granularly sliced and diced by employee, department, location, or time of day. Billing reconciliation enables examining usage vs. wireless plan limits, automating so-called rate plan optimization and the identification of unused or orphaned devices. Like any good IT management platform, MDM solutions present a consolidated view of device inventory and activity across device types and carriers.

In addition to expense tracking, MDM includes features to monitor hardware, such as viewing real-time signal strength, resource utilization (CPU and memory), and fine-grained inventory of installed applications. It also enables remote diagnostics, troubleshooting, and password resets, all features mirroring those common on PC client management platforms. Unlike those, however, MDM software can even geolocate devices with embedded GPSes.

The ability to remotely configure and enforce smartphone security policies is another core element of MDM services. Again, mirroring PC management suites, common features include malware scanning and removal, centralized data backup, the ability to apply password policies, restrict local application installations, filter or block Web content, enforce local data encryption policies, and remotely lock or completely wipe an inactive, lost, or stolen device.

Advantages & Drawbacks

As with any other SaaS application, the chief benefits of cloud-based mobility services are capital expense avoidance and the convenience of a browser-based, remotely managed, and automatically updated service—unlike dedicated internal software platforms, online services are immediately available and don't require months of setup, tweaking, and staff training. Besides avoiding additional dedicated hardware and operational staff, like any good SaaS solution, MDM offerings are eminently scalable. With usage-based subscriptions, they're also more cost-efficient, making them good choices for SMEs that have historically been unable to afford sophisticated on-premises management platforms.

Objections to a cloud-based mobility management solution echo those used against SaaS products in general. According to a report by David Krebs of VDC research, the top concerns among those asked about using SaaS vs. on-premises mobile management solutions are data privacy, integration with other applications, vendor lock-in, network problems, and lack of customization and control. He says vendors are addressing these issues by developing more easily customized products, software architectures that don't require constant connectivity, and better training and operational transparency.

Although most SaaS vendors address data privacy and security concerns through SLAs, the geolocation feature of new smartphones opens up a new area of worry. While geolocation is invaluable in recovering lost or stolen phones without ironclad guarantees, it's another source of valuable confidential information. P

Mobile Expense Management Functions

According to a Burton Group Research Report by analyst Paul DeBeasi, mobile expense management includes a broad set of business processes and functions, such as:

- **Contract management:** Creation of RFI (request for information) and RFP (request for proposal) documents and negotiation of service contract terms and conditions.
- **Policy management:** Definition, tracking, and enforcement of mobile policies as well as workflow management for mobile policies.
- **Procurement:** Device and service order entry, provisioning, and installation.
- **Invoice management:** Invoice validation and payment, service dispute management, and cash rebate tracking.
- **Asset management:** Asset discovery, tracking, and management.
- **Service optimization:** SLA and KPI (key performance indicator) monitoring, mobile services benchmarking, and real-time usage measurement.
- **Helpdesk:** Management of moves/adds/changes/disconnects, remote device reset, and real-time alerts.
- **Retirement:** Secure device erasure and device disposal or recycling.

Something Rich & Strange

Computing In The Quantum Realm

by Bridget Mintz Testa

• • •

The world of quantum mechanics features phenomena with no parallel in our normal, Newtonian-physics world. In the 1980s, physicists such as Richard Feynman realized that it was impossible for conventional computers to simulate certain quantum mechanical effects efficiently. Attempts to do so get exponentially slower as the number of particles in a system increase.

Key Points

- In quantum computing, unlike conventional computing, a system can't be described in terms of the individual components of the system.
- Quantum computers evaluate all possible paths a particle or particles can take, but we know how to use this for only a few types of problems in terms of obtaining interesting results. The number of possible paths is 2^n (where n is the number of particles in the system).
- Only a few quantum computing algorithms have been developed to date. The largest quantum computer built so far consists of eight ions trapped in an electric field.

Such simulation needed a new type of computing: quantum computing.

Since then, a few people have developed quantum computing algorithms. It also became apparent that quantum computers may be able to solve some of the problems that conventional computers couldn't solve in the lifetime of the universe. Despite these achievements, quantum computing is still in its infancy.

SMEs that deal in basic research and development in fields such as chemistry, electronics, biology, nanotechnology, physics, and other sciences could make use of quantum computing for better and more accurate simulations of their topics of interest. Any business concerned with security must stay up with the advances quantum computing makes in cryptography so it isn't surprised when supposedly impenetrable protection suddenly becomes anything but.

Quantum Computing vs. Classical Computing

In our ordinary, Newtonian world, at any instant, we can know exactly how fast an object is going and its exact location. For example, at any given moment, we can calculate exactly where each planet in the solar system is and how fast it's going relative to the sun and the other planets.

Enter the realm of the atom, however, and everything changes. Physicists once described atoms as miniature solar systems, with electrons orbiting the nucleus like planets orbit the sun. Today, an electron's position relative to the nucleus is described as a kind of cloud representing all the electrons' possible locations and speeds.

"Quantum mechanics says that at the sub-atomic level, an object isn't in a definite state," says Scott Aaronson, an associate professor of electrical engineering and computer science at MIT. "It's in a 'superposition' of all the possible states it could exist in." Superposition is one reason quantum mechanics is strange. Another bizarre aspect of quantum mechanics is that sub-atomic particles interact with each other through a phenomenon known as "entanglement."

In classical computing, "We can specify exactly the state of each bit without referring to any other bit," says Eleanor Rieffel, a mathematician and senior research scientist at the FX Palo Alto Laboratory. Not so with quantum bits, which are referred to as "qubits."

"In quantum mechanics, some states can't be described in terms of the separate components," Rieffel says. "So you can't specify the value of a qubit without reference to other qubits at certain points in a quantum computation. At the end, you measure each qubit, which puts it in a classical state." That is, in quantum mechanics and quantum computing, the components of a system can be entangled—correlated in a way that is not possible for a classical system—until they are measured. When that happens, all correlations become classical and the resulting state of the system can be described in terms of its components.

How Quantum Computers Work

The simultaneous paths of a quantum system can interfere with each other—even if we're just dealing with one particle such as a photon. "The different paths a photon could take each get assigned a number called an amplitude," Aaronson says. "They can be positive, negative, or complex. If some event could happen with both a positive and a negative amplitude, the two could cancel each other out."

This idea is analogous to ocean waves on a beach. If one wave comes in at the same time another is going out, they'll cancel each other, so there's no wave at all.

"Nature must keep track of all of these possible amplitudes," Aaronson says. "If there are 1,000 particles [in a system], and each could be in one of two possible states that we represent as 0 and 1, then quantum mechanics says that to specify the state of the system, we must write down the amplitude for every one of the possible configurations of the particles. There are 2^{1000} possible configurations of the particles." If a system had 50 particles, the number of possible configurations would be 2^{50}.

"Quantum computing tries all the possible paths simultaneously, somewhat like a massively parallel computer, but we only know how to use that ability for a limited number of problems to get anything interesting," Aaronson says. "The goal of quantum computing is to try to choreograph things so the paths that lead to the wrong answers will cancel each other out."

Orchestrating Quantum Systems

Quantum algorithms choreograph a quantum system just as conventional algorithms choreograph a modern computer's operations. "You must get the probabilities [i.e., superpositions] to collapse," says Dave Bacon, a research professor in computer science and engineering at the University of Washington—Seattle. "You must design algorithms to create that collapse. This is the basic picture of quantum computing."

Only a few algorithms have been developed to date. One of the best known is Shor's algorithm, discovered by mathematician Peter Shor in 1994. Shor's algorithm permits quantum computers to solve problems like factoring two very large numbers. The difficulty of doing this with conventional computers is the basis of most modern cryptography. "So you can break most cryptography used today," Aaronson says—assuming you can build a quantum computer and implement Shor's algorithm.

The largest quantum computer yet is made up of eight ions—charged atomic nuclei stripped of their electrons—in an "ion trap," a device that uses an electric field to capture the ions. "The leading implementation of quantum computers is ion traps," says Bacon. Other quantum computers are based on electron spin, photon polarization, or more exotic physics phenomena.

Bacon is part of a group working on a project to build a quantum computer with 20 to 50 ions in one or more ion traps. Funded by the Intelligence Advanced Research Projects Activity (www.iarpa.gov), "we're trying to build large ion traps and wire them together," Bacon says. The goal is to build such a quantum computer in five years. P

Solving Quantum Problems

In addition to potentially breaking all current cryptography systems, what else can quantum computing do? One of the most important problems it can address is the simulation of quantum systems. "There are quantum effects in photosynthesis," says Dave Bacon, a research professor in computer science and engineering at the University of Washington in Seattle. "We are trying to understand that. Maybe quantum computing can simulate these large, biological systems." Quantum computing may also be able to simulate important problems in physical chemistry, materials, and other fields.

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DATA CENTER MANAGEMENT

Compiled by Rod Scher

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News

Gartner Forecasts Drive Toward Low-Cost IT

A report from Gartner says that several factors, including business and economic uncertainty, increasing globalization, and intense competition among IT services companies, will push enterprises to make additional moves toward low-cost IT. According to Gartner, low-cost IT is "the delivery of managed IT services (infrastructure, application, business process services) designed and implemented to minimize IT price—per-user/unit per-month (PUPM)—while maximizing the number of client organizations and users that adopt the services."

The Gartner report says that current economic conditions have forced many enterprises to cut their IT costs by restructuring their services, outsourcing, and using lower-cost providers, a trend that could create a "prolonged reduction in the unit cost of IT services" over the next few years. This decrease in prices and market size would stall growth in the IT services market by 2013, Gartner says.

Although lower prices could make it easier for smaller providers to get a foothold in the market, that won't necessarily result in overall market growth, says Frank Ridder, research vice president at Gartner. "Low-cost IT services will reduce the volume of dollars spent on IT services," he says. "The total IT services dollars today are spent on expensive traditional services. If those get radically cheaper, even with growing low-cost IT services, the sum will be stalled growth."

What Low-Cost IT Means For Enterprises

Although this predicted slowdown in growth is bad news for the IT services market, the trend toward low-cost IT services could be good news for the organizations buying those services, Ridder says.

"This first of all provides more options for business," he says. "How good the news is still has to be proven moving forward. How much risk is embedded in a low-cost IT service, how easy can they be combined with each other, how easy will it be to integrate them—lots of questions that will need answers as low-cost IT services become available."

Right now, Gartner says industrialization of IT services is helping to reduce costs. Ridder says this means that services are becoming highly standardized and are shared among multiple clients, as in a SaaS delivery model. "This allows great efficiency and therefore will reduce the overall cost," he says. "Organizations pay for what they use."

As the rise in low-cost IT continues, Ridder says, it's likely that enterprises will work with multiple IT service providers in the future, instead of only one or two.

by Kyle Harpster

HOW TO

Restructure An IT Department

Give Your Staff A Makeover Without Trashing Your Budget Or Losing Your Mind

by Elizabeth Millard

• • •

JUST AS HARDWARE and software need to be upgraded and refreshed, staff roles in an IT department need revamping occasionally, as well.

The increased use of automation and outsourcing can keep staff numbers low, but the use of those strategies also creates a need for more project management training and specialized skills in areas such as security, for example. This leads IT managers to re-examine staff duties to make sure they're continuing to see efficiencies and effectiveness within the salary budget. Here are some insights to the steps an SME should consider when approaching restructuring.

Determine Staffing Levels

There's no formula or standard when it comes to deciding on staff roles and responsibilities, and the question of whether to restructure has no easy answer, according to Nick Vossburg, president of Alteritech (www.alteritech.com), an IT infrastructure and managed services firm.

Key Points

- Numerous factors affect IT staff responsibilities, including company culture, IT literacy, effectiveness of support tools, and the size of the company.
- Automation and outsourcing can help to make a staff more effective and minimize inefficient support methods.
- The one position that will always be necessary in an organization is the IT manager, as he or she will have the strategic vision required for maintaining an efficient IT department.

Restructuring will be highly dependent on a number of variables, he notes, but in a general sense, IT departments are usually staffed using ratios of help desk personnel to staff and engineers to servers. Typically, there's usually one full-time data center employee for every 30 to 50 servers, for instance, and one employee for every 10TB of storage.

However, many factors can affect the proper ratio, including company culture, complexity of infrastructure, number of servers, size of staff, IT literacy and proficiency among staff members, effectiveness of support and maintenance tools, automation, and self-help support tools.

A first step in determining whether restructuring is necessary is to look at overall efficiency of current efforts and to have some in-depth conversations with department heads as well as IT employees. It's useful to know, for example, whether HR anticipates a hiring push in the year ahead—or some serious downsizing—and how that might affect IT operations.

Also, take a look at utilization, suggests David Layton, a senior vice president at Terremark Worldwide (www.terremark.com), a provider of IT infrastructure services. He notes that 85% utilization is considered effective, while more than 90% risks burnout. Examine overtime figures, too, he suggests: If there's a run rate of 30 hours per week or more of overtime, it's time to add another staff member and/or restructure.

Much like planning a major technology upgrade, a restructuring plan should look ahead about three to five years to project what type of skills will be necessary and whether existing employees can handle those responsibilities as they arise. Some organizations may want to bring in a consultant or data center staffing expert, too, to get additional perspective and hear about what other data centers have been doing in their restructuring efforts.

Automation & Outsourcing Power

Staff ratios can be improved through the use of self-help tools, automation of common support tasks, and run books for IT staff that can minimize inefficient support methods, says Vossburg.

"The goal should be to restructure the department without impacting services to its clients," he notes. "Often, that can be achieved by evaluating outsourcing options and identifying areas that can be automated or improved through self-service options for staff."

Many times, when restructuring occurs, help desk operations are the first to be tweaked because these tasks can take up so much time and effort for an IT staff. The wealth of automated tools and outsourcing options should be considered so that the IT department can be restructured in a way that takes these daily firefighting chores off the shoulders of IT employees.

Automation can also change the responsibility mix of managers by doing more extensive monitoring and management of systems, notes Dr. Joe Polastre, CTO and co-founder of Sentilla (www.sentilla.com), maker of software that manages energy use in the data center.

"'Hand' monitoring of circuit capacity, server utilization, UPS load, CRAC power anomalies, etc., requires too much human involvement," he says. "With limited staff, these tedious tasks would take too much time to yield any useful results or action items." Management is inherently a continuous process, he adds, which needs to be automated in order to free personnel resources for IT projects.

Looking Toward Restructuring

As automation and outsourcing are considered and perhaps utilized more, an IT manager will need to look to staff responsibilities to decide where internal restructuring needs to take place.

Most likely, there will need to be expertise in terms of project management, security, and strategic planning, and some employees may need to freshen up their skills or take training in order to move into these roles, especially if they've been focusing on help desk tasks in the past.

The responsibilities of an IT manager may need to shift, but this is one position that's often not in danger of being completely overhauled, Vossburg notes: "At the core, every IT department needs a manager who can balance the day-to-day management of technology with strategic vision to ensure the organization maintains its competitiveness."

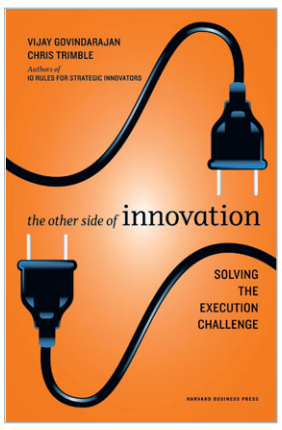
While taking on the nuts-and-bolts restructuring tasks, increase communication with IT employees, Vossburg notes, particularly if any downsizing may occur as a result of the department revamp. He says, "Giving staff time to think about their options and look for other opportunities helps to alleviate the strain put on the person and their families."

Even for those who aren't being downsized, major changes to their roles can be anxiety-producing as well as exhilarating. Taking the time to check in on every step of the restructuring can make the process more of a boon and less of a headache. P

TOP TIPS

- Make a list of each staff member's daily and long-term responsibilities to see if any can be shifted to another employee or outsourced. This might free up more time for individual employees or increase departmental efficiency.
- Have a conversation with each IT staff member and determine what he or she would like to be doing. Perhaps a help desk representative wants to learn more about network security or a security manager wants to move into project management. By tapping into enthusiasm and interests, restructuring can be beneficial for everyone, instead of nerve-wracking for those who fear being downsized.
- Consider tweaking operations as well as staff so that restructuring comes at the same time as revamping formerly standard procedures.
- Bring in an efficiency expert or consultant familiar with data center roles and responsibilities; it's helpful to get an outside perspective from someone who's seen numerous IT setups and knows what works and what doesn't.
- Determine which tasks would benefit from cross-training among staff members. For example, an employee doing server maintenance can be trained on HVAC systems and cabling; such training can also increase facilities management responsibility, leaving the IT manager more time for strategic planning.

BOOK REVIEW



1% Inspiration, 99% Perspiration

The Other Side Of Innovation: Solving The Execution Challenge

Authors: Vijay Govindarajan and Chris Trimble
Publisher: Harvard Business Press
Price: $29.95
Format: Hardcover, 240 pages

by Kurt Marko

• • •

Most books on innovation focus on geniuses and their creations. These constitute the Great Man Theory of history as applied to product development. Innovation, in this view, is the product of creative brilliance and self will.

In "The Other Side Of Innovation," Vijay Govindarajan and Chris Trimble argue that bright ideas and visionary leaders are only preliminary steps to the development of innovative products. "There is too much emphasis on ideas, not nearly enough emphasis on execution," they write. "Thomas Edison made essentially the same observation more than a century ago: 'Genius is 1% inspiration, 99% perspiration.'"

The authors argue that innovation is best achieved by emphasizing that 99%, focusing on the execution by adopting structured processes, systematic planning, and disciplined experimentation. In much the way Henry Ford revolutionized product manufacturing through division of labor and the assembly line, the authors outline a similarly systematic process for product conception and development.

Innovation Approach

The authors adopt a broad definition of "innovation," including any new and significant product with an uncertain likelihood of success. After a decade's worth of research, they conclude that innovation is so difficult in established companies precisely because organizations are simply not designed to support it. Instead, enterprises are structured to deliver repeatable, predictable profits. This is the "force that shapes and molds companies as they grow and mature. Inevitably, organizations evolve into what we call Performance Engines," the authors write.

The heart of the book focuses on reconciling the divergent needs of the Performance Engine and the innovation team; namely the former's need for repeatable, predictable operations and the latter's need to develop ideas, make mistakes, evaluate experiments, and change course. The authors bisect the innovation execution problem, and, hence, the book's structure, by first examining how to build the right team and then looking at developing the right plan.

The authors reject the notion that innovations are best achieved by a rogue, skunkworks project. Rather, they contend, success is predicated on a focused "Dedicated Team" of new product developers with an appointed group of "Shared Staff" tasked to provide part-time support while actively managing the partnership, collaboration, and inevitable conflict between the two.

Having assembled the development team, it's time to plan an innovation initiative and evaluate its progress. Again, the authors emphasize process over genius, admitting that the best-laid plans often fall victim to real-world events.

"Initial plans for [an] innovation initiative are typically riddled with guesswork. As a result, the competitor that wins is rarely the one with the best initial plan; it is the one that learns the fastest," the authors say.

The authors conclude the book with tips for scaling processes from running individual innovation projects to managing a family of initiatives. The book wraps up with a set of assessment tools to assist readers in applying the principles to their specific circumstances. P

Key Concepts

- Effective innovation is less a result of great ideas and more having the discipline and perseverance to explore, refine, and perfect those ideas into successful products.
- Contrary to popular myth, successful innovation doesn't require a lone visionary leader, but it can be achieved through a systematic process of team selection and project planning.
- In the corporate environment, innovation projects are seldom the outcome of segregated skunkworks groups, but they require the cooperation of both a dedicated project team and affiliated operational staffers.

Other New & Upcoming IT Titles

"The Dragonfly Effect: Quick, Effective, and Powerful Ways to Use Social Media to Drive Social Change," by Jennifer Aaker and Andy Smith. This book, based on a Stanford MBA course, provides a look at how to achieve change using the power of social media.

"Maximum vSphere: Tips, How-Tos, and Best Practices for Working with VMware vSphere 4," by Eric Siebert and Simon Seagrave. A comprehensive working reference for system administrators using VMware's latest management platform. It offers consultant-tested best practices, tips, and solutions for optimizing performance and reliability.

"VoIP Performance Management and Optimization," by Adeel Ahmed, Habib Madani, and Talal Siddiqui. A comprehensive guide to managing, monitoring, troubleshooting, and optimizing large VoIP networks that outlines state-of-the-art techniques for meeting voice service levels and monitoring VoIP network health.

"Corporate Lattice: Achieving High Performance in the Changing World of Work," by Cathleen Benko and Molly Anderson. Challenging the hierarchical organization of the traditional corporation, this book argues that a lattice structure is better suited for today's global business environment.

Processor Solutions Directory

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